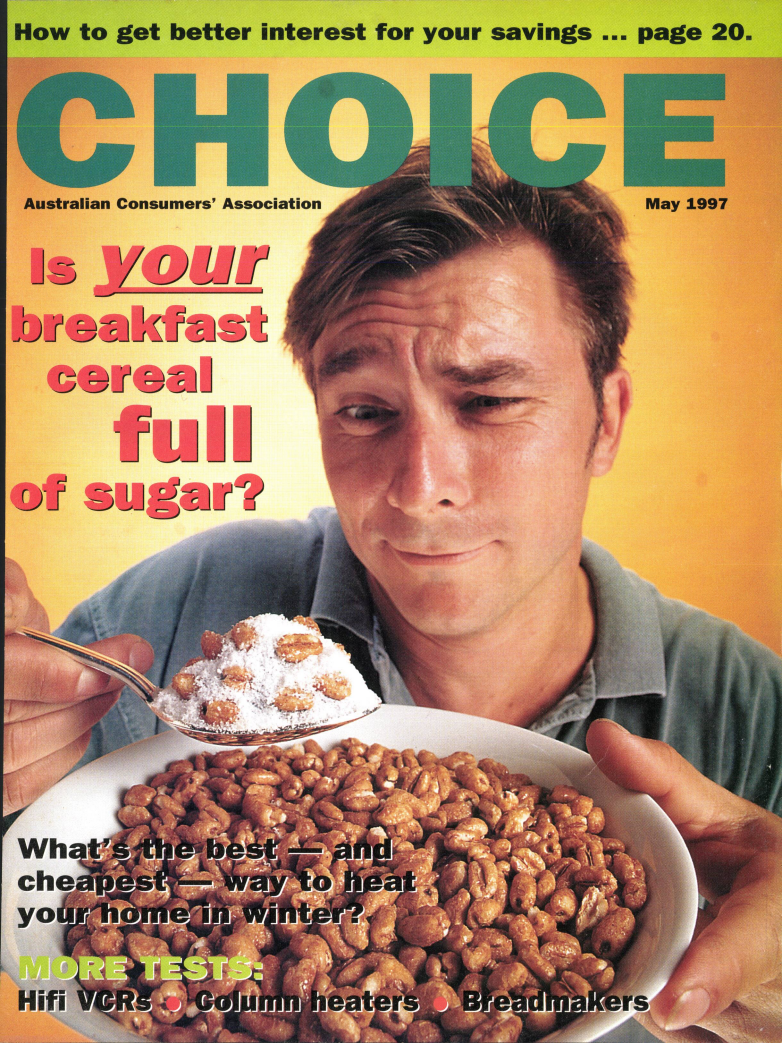
How to get better interest for your savings ... page 20.

CHOICE

Australian Consumers' Association

May 1997

Is *your* breakfast cereal full of sugar?



What's the best — and cheapest — way to heat your home in winter?

MORE TESTS:

Hifi VCRs • Column heaters • Breadmakers

Better than under the mattress

Jane Mackenzie

After our report on everyday bank transaction accounts in March CHOICE, many of us here were left wondering whether we'd be better off keeping our money under the mattress. After all, if many people are going to end up paying more to their bank for the privilege of having an account than they can hope to earn in interest, what's the point of keeping your money there?

The news that there's estimated to be between $97 and $115 billion sitting in these types of account, earning rates of interest as low as 0.1% a year, didn't make us feel any happier about the fate of our so-called savings. So the suggestion — in our article on alternative savings facilities, starting on page 20 — that we could share in a potential extra $4 billion a year in interest payouts by moving our money to a different type of account was welcome.

As the article explains in more detail, you can often do this without losing out on many of the convenience factors of a bank account: ATMs, EFTPOS, cheques, credit cards, a place for your salary to be paid into, and so on.

So we really think it's worth everyone's while to spend a little time reconsidering what to do with the amounts of money — anything over $1000 or so — sitting in their transaction accounts. Our article covers four easily available alternatives.

After all, it's better for *you* to benefit from the extra cash than for it to contribute further to the banks' high profits. They want to remove regulations that provide basic consumer protection against rip-offs, they want more bank mergers that would create ever more powerful banks, and they have taken to charging fees for practically every account feature or service they think they can get away with.

So play them at their own game: look at moving your savings into accounts in which you can at least make some money out of the bank instead of it out of you. We hope the article in this issue will give you some ideas and make it easier for you.

Jane Mackenzie, Editor

Your letters

We welcome the letters you send us — please always include a daytime telephone number so we can contact you quickly if we want to follow your letter up. We're sorry we can't personally answer every letter we receive, but we do use them in our research. Thanks for taking the time to keep in touch.
Write to us at CHOICE, 57 Carrington Road, Marrickville 2204.
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World Wide Web address: http://www.sofcom.com.au/ACA/

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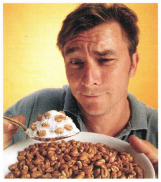

Cover photo: Kent Mears

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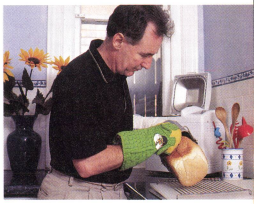

▲ *Breadmakers: not the miracle gadget you might expect. See page 31.*

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How can you put your savings to work earning up to 20 times the interest they'd get in a normal transaction account, and still have access to convenient features such as ATMs and EFTPOS? Our report gives four savings alternatives.

26 **Genetically modified corn**
Yet again, a genetically engineered food product is about to be released onto the Australian market with no plans in place to inform consumers which foods it will be in.

◀ *How do you know what you're eating if they won't tell you? See page 26.*

36 **Hifi VCRs**
At last we're starting to see video recorders that you don't have to be a rocket scientist to use to their full potential — and their picture and sound quality are very good too.

42 **Column heaters**
Slow but safe — can a column heater fulfil your heating needs?

▲ *A good remote makes all the difference to making your VCR work well — page 36.*

◀ *Column heaters are safe with kids around — see page 42.*

Coming in the next three issues

Tests: 400 L fridges, food processors, microwave ovens, irons, vacuum cleaners, dishwashers, aluminium foil and cling wrap, mains-powered impact drills.

◀ *Which iron will make your life easier?*

Reports: Mortgage options, appliance reliability, comprehensive and third-party car insurance, childbirth options, alternative medicine, soap, organising a funeral, fluoride in water, your shopping rights.

We try to bring you tests and reports in the planned month, but sometimes have to move an article because of problems that occur during testing and research, or for lack of space in a particular issue. We apologise if this causes any inconvenience.

CHOICE*cuts*

Tax-driven investments

AROUND THIS TIME of the year the marketing for 'tax-driven' investments starts to heat up. These are high-risk investments designed to reduce the tax you pay, but most people should steer well clear of them, as there's a high risk of losing your money.

The Australian Securities Commission (ASC) is running an awareness campaign this year to draw people's attention to the risks of some 'tax-driven' schemes. It will be monitoring advertisements for investment schemes, particularly those involving agriculture — for example, investing in breeding schemes for various animals or plantation investments. Most of these agricultural schemes are high-risk, and while a few of them will be outstandingly successful, according to the ASC, many will fail.

In fact with many tax-driven investment schemes you're likely to end up losing money, or with a worse return than if you'd left it in the bank and paid full tax.

Every year these schemes are urged upon people who shouldn't be anywhere near a high-risk investment. So don't let yourself get talked into this type of scheme unless you're:

- Fully aware of the risks involved and prepared to take them because of the potential gains — but also:
- Aware of the failure rate of these types of scheme.
- Prepared to and can afford to lose your money.

On the whole you'll usually be safer if you put your money in investments managed by reputable investment managers, shares in solid companies or property you've inspected yourself.

The ASC wants to hear from you if you see ads or receive investment advice that seems suspect. You can also give them a call if you just want more information about tax-driven investments, and the questions to ask. The ASC Infoline is 1300 300 630.

Advertising honey, garlic and nonsense

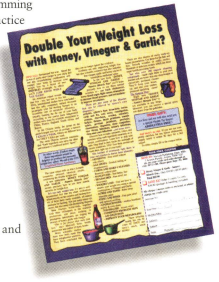
"BLEND THE POWER OF garlic and vinegar ... to increase your weight loss by a factor of two (DOUBLE) overnight." This is just one questionable claim that appeared in a recent magazine ad for the book *Honey, Vinegar and Garlic — Nature's Miracle Trio*.

The ad also reports that a group of people on a garlic/vinegar test "lost on average a massive 5 kilograms a week". CHOICE thinks such claims are misleading, given a lack of scientific evidence to show honey, garlic or vinegar can help at all with weight loss.

This ad is just one of many for dubious weight loss treatments which have been appearing in the absence of an advertising standards system for slimming products. The Advertising Standards Council managed the Slimming Advertising Code of Practice in the past, but stopped doing this from December 31 last year.

CHOICE is pushing for an industry body to manage the Code, including consumer representation and an independent complaints resolution scheme.

In the meantime, we have complained to the Australian Competition and Consumer Commission (ACCC) about the ad for "nature's miracle trio" and hope it will have disappeared from print by the time you're reading this.


Double Your Weight Loss with Honey, Vinegar & Garlic?

Corrections

GOING MOBILE

CHOICE, March 1997

On page 35 we said the digital network "offers many enhanced services which are not possible with analogue technology", and listed some of these services.

In fact some of the enhanced services the digital network offers *are* available for analogue phones, but can be accessed more quickly or easily with digital technology. These include:

- Data transfer (for example, links to a fax machine, computer or the Internet).
- The ability to use your handset in certain countries overseas.
- The use of a paging or short message service.

SAVINGS: ON NO ACCOUNT

CHOICE, March 1997

When we calculated the charges for the table on page 13, we included EFTPOS charges for each customer.

ENDEAVOUR CREDIT UNION has informed us that it only charges a fee for EFTPOS withdrawals if no purchase is made at the same time. If we assume that the customers in our scenarios made a purchase each time they made an EFTPOS withdrawal, the figures in the table will change for scenario 2, 'Mark and Melanie', to:

Interest	Charges	Overall
$1.88	$42.00	–$40.12

The figures for the other customers won't change, as they had a lower number of transactions each month, and these all fell within the free-transaction threshold.

The table on page 14 indicates a $2 account-keeping fee (if your balance is less than $500) for the **NATIONAL AUSTRALIA BANK Flexi** account. This fee was in fact abolished last year. We didn't include it in our 'bottom line' calculations, but inadvertently left it in the table.

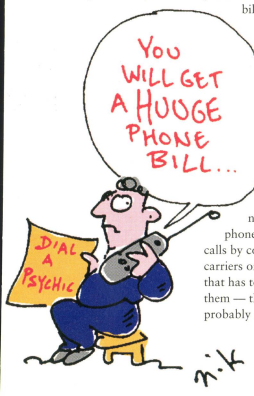
Wait! Before you dial that number...

IT'S NOT JUST the weather you can ring for these days. There are telephone services out there that provide live, recorded or faxed information on anything from astrology and dating services to stock exchange and sports information — many of these services have a 190x or a 0055 number.

The problem is, consumers often don't realise the catch with these calls.

- 190x and 0055 numbers cost more than normal calls. There are fixed-fee and time tariffs, and some fixed fees can be as high as $30. Listen for fee information at the begining of the call — you should be given the option of not continuing before exceeding the cost of a local call.
- At the moment, 190x numbers are provided by either Telstra or Optus, depending on which the company you're calling has chosen. So, if you normally use Telstra and you ring a 190x number that is carried by Optus, you will get a bill from Optus for that call — and vice versa. 0055 numbers, on the other hand, are only provided by Telstra. You can tell which services are carried by Optus by looking for numbers starting with 1900 1 or 1901 0. All other 190x numbers are provided by Telstra.

Optus and Telstra are currently negotiating towards a situation where customers only get one bill. This will become even more relevant after July 1, when there will be more carriers, and should prevent a situation where you end up with several bills from various phone companies for trivial amounts of money.



- 190x and 0055 numbers are available through any standard telephone service. Anyone can call these numbers from your phone. You can bar these calls by contacting *both* carriers or by asking for a PIN that has to be used to access them — though this will probably cost you.
- If you have a silent number, your details may be released to a carrier you didn't choose to deal with, so that it can bill you.

If you have a complaint about a 190x or 0055 number you have used, the first thing to do is contact the phone company which billed you. If you don't have any success there, you may need to contact the following organisations.

For fair trading complaints:

- Telephone Information Services Standards Council (TISSC), freecall: 1800 025 213 — for message content and advertising.
- Australian Competition and Consumer Commission (ACCC) (check your phone book).

For billing or credit-related complaints:

- Telecommunications Industry Ombudsman (TIO), freecall: 1800 062 058.

Hand in yellow fire extinguishers

THE USE AND possession of portable halon fire extinguishers has been banned in all Australian states and territories since (at the latest) January 1, 1996. (We reported on the ban in *Choice Cuts*, March 1996.)

So if you still have a halon fire extinguisher at home, in the car, on the boat or elsewhere, hand it in to your nearest fire station free of charge — and don't worry: you won't face any fines for being late.

Portable halon fire extinguishers are recognisable by their yellow bottle and carry the coding 'Halon 1211' or 'BCF'.

You can replace halon extinguishers with dry-powder chemical ones or fire blankets.

Halons are man-made gases that contribute to the depletion of the earth's protective ozone layer. The hole in the ozone layer over parts of Australia allows more of the sun's harmful UV radiation to reach the earth, where it can, for example, increase the risk of skin cancer.

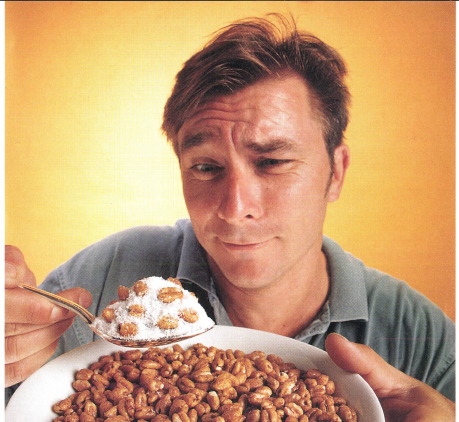
The Department of Administrative Services Centre for Environmental Management (DASCEM), which is responsible for the collection and storage of halons since the ban, opened the world's first halon destruction plant in Melbourne in January this year. The gas is extracted from fire extinguishers and atomised at temperatures of more than 10,000°C. The plant has a licence to destroy halon stocks from other countries too.

TEST REPORT

Cereals

— your best wake-up call?

With over 250 breakfast cereals on the market you could munch your way through quite a few before you find the right one — or you could simply use this guide.



IN BRIEF

- We give a nutritional rating for almost 200 cereals (pages 10 to 13). Over 100 cereals passed our criteria to be rated highly recommended, recommended or OK.
- We wouldn't recommend five of the 10 top-selling cereals for everyday eating (page 7).
- Many children's cereals are too high in sugar and low in fibre (page 13).
- Some cereals marketed as 'sporty' are too high in sugar for everyday eating (page 13).

BREAKFAST MEANS EXACTLY WHAT it says — 'to break your fast'. By morning you usually haven't eaten for at least eight hours and your stores of fuel have been used up. You need to eat something to build up your reserves and give your day a kick-start.

Studies have shown that by lunchtime, people who eat breakfast are functioning better than those who don't. Children who skip breakfast can't concentrate as well in the late morning and adults who skip it are more likely to be involved in industrial accidents.

And breakfast-skippers are more likely to binge on sweet or fatty snacks at morning tea — which, combined with the lower rate of burning up calories they've probably established by not having breakfast, can make it easier to put on weight.

What makes a good breakfast?

For breakfast, complex carbohydrate is the real hero. It's what your body most likes to use for energy — after digestion it's stored in the liver and muscles as glycogen, which your body draws on during the day to fuel mental and physical activity.

The best sources of complex carbohydrate are grains, making breakfast cereals a perfect wake-up call. As well as providing complex carbohydrate, breakfast cereals are a source of protein, fibre, vitamins and minerals, and contain very little fat, salt and sugar — that is, of course, in their unprocessed state.

But what happens after they're stripped, heated, puffed, rolled, flaked, toasted, baked, sweetened, salted, coloured and flavoured — how nutritious are they then? We developed a nutrition rating scale and sifted through the cereal mound to come up with the answers.

For an explanation of the cereals' rating scale, see *How we rated the cereals* on page 9.

Thumbs up

As the table on pages 10 and 11 shows, there are plenty of nutritious breakfast cereals to choose from. All up, we found 17 we highly recommend (including several supermarket brands), 23 we recommend (including rolled oats, which come under many brand names) and 72 we consider to be OK — not as good as our top 40 cereals, but not too bad.

The best cereals are ones that are closest to the original whole grain (usually those with a short ingredients list) — this includes wheat biscuits and flakes, and shredded wheat. Rolled oats and some natural (non-toasted) muesli and bran cereals are also among the better choices.

As more things get added to the original grain (for example, sugar or salt) the nutritional value decreases slightly — the cereals that we rate as OK have more sugar, salt or fat or less fibre than the best choices, but they're still not a bad way to start your day.

And thumbs down

There are also a lot of breakfast cereals out there that aren't good choices. Of the cereals we looked at there are 82 we wouldn't recommend for everyday eating. They're discussed on pages 12 and 13 (and aren't listed in our table).

Unfortunately, a number of these cereals are marketed at children. Most of these kids' cereals are so highly processed they no longer resemble the grain they started out as. All the cereals in the kids' list on page 13 have at least two teaspoons of sugar in a 30 g serve, several have as many as three, and one even has four — which doesn't leave much room for anything else, especially fibre and complex carbohydrate.

The majority of manufacturers add vitamins and minerals to these cereals to make them somewhat more worthwhile for children (and at least they'll also get calcium if they add milk), but you're better off encouraging your kids to eat a cereal that's got complex carbohydrate and fibre in place of the 'empty calories' offered by sugar. Any of the cereals in the table are better choices — and kids can even add one or two teaspoons of sugar to the cereals in the 'highly recommended' or 'recommended' categories and still get a more nutritious start to the day.

When it comes to adult cereals, toasted and oven-baked muesli are often high in fat (and, sadly, we found a number of natural muesli too high in fat as well, probably from nuts, coconut or seeds), and a few bran cereals are too high in salt for us to recommend them.

And although the old faithfuls, cornflakes and rice bubbles, may be what you've eaten for years, there are much better choices around.

Be a sport

Becoming a sports star is only a breakfast cereal away — or so some advertising would have you believe. We took a look at the cereals (and breakfast bars) with a 'sporty' image to see how they measured up.

Two of them didn't even make it into our list of recommended or OK choices (**KELLOGG'S Nutri-Grain** and **WILLOW VALLEY Slam Dunks** are both too high in sugar) and of the ones that did only **KELLOGG'S Sustain** was a particularly good source of complex carbohydrate (the preferred source of energy for everyone, but especially athletes).

While the extra sugar in **Nutri-Grain** and **Slam Dunks** may be OK for very active people who need to get lots of energy from their diets, it's not the best choice if you don't get much exercise. So don't switch from a more nutritious cereal just because of advertising hype.

BIG BIKKIES

Australians are big cereal eaters. Each year we chomp our way through almost 10 large (750 g) boxes each — and put ourselves out of pocket by over $600 million.

There are over 250 cereals on the market, but most of us limit our choice to the top 20 or so. However, big doesn't always mean better — we wouldn't recommend five of the top-10 sellers as your regular cereal choice.

10 TOP-SELLING BREAKFAST CEREALS IN AUSTRALIA

Brand	Market share (%)	Our rating
SANITARIUM Weet-Bix	15.3	☆☆☆
KELLOGG'S Corn Flakes	9.2	👎
UNCLE TOBYS Vita Brits	6.2	☆☆☆
KELLOGG'S Nutri-Grain	5.2	👎
KELLOGG'S Coco Pops	4.7	👎
KELLOGG'S Sultana Bran	4.3	☆
KELLOGG'S Just Right	3.8	☆
KELLOGG'S Rice Bubbles	3.3	👎
KELLOGG'S Special K	3.1	☆
KELLOGG'S All Bran	3.1	👎

☆☆☆ Highly recommended
☆ OK
👎 Not recommended for everyday eating

Market share figures are from *Retail World*, December 9-13, 1996.

Price line

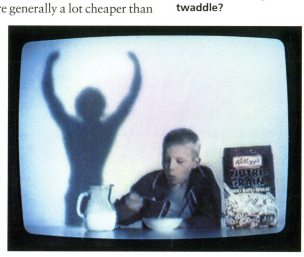
The price of breakfast cereals can add up, particularly if you've got a couple of hungry teenagers in the house who eat them morning, noon and night.

You can get a nutritious breakfast cereal for as little as about three cents a serve ('no-name' rolled oats). However, if you're looking for something a bit more snackish but still fairly nutritious, you've got to be prepared to pay a lot more — something like 22 cents for a 30 g serve of **KELLOGG'S flavoured Mini-Wheats** or 23 cents for **SANITARIUM Fruity Bix**. Some of the highly sugared kids' cereals can really burn a hole in your pocket — 36 cents for a serve of **KELLOGG'S Froot Loops** or 37 cents for **KELLOGG'S Honey Smacks**, for example.

'No-name' brands are generally a lot cheaper than their big-brand counterparts. For example, by buying 'no-name' wheat biscuits instead of **SANITARIUM Weet-Bix**, you can save about a dollar on a 750 g pack.

Of course, taste also matters, but there's no harm in trying the cheaper cereals — you might find a bargain your family is happy with.

Why does Nutri-Grain "help turn a young man into an iron man"? Is it because it's low in complex carbohydrate and doesn't have much fibre, compared to many other cereals? Is it because it's high in sugar? Or is it just a load of marketing twaddle?



Vitamin top-up

Breakfast cereal with added folate can be especially important if you might get pregnant — you need more folate in the first weeks after conception.

Highly processed breakfast cereals are usually stripped of the vitamins and minerals present in the original grain. Cereal manufacturers often add some of these vitamins and minerals back — mainly vitamins B_1 (thiamine), B_2 (riboflavin) and B_3 (niacin), as well as the mineral iron. They're also allowed to add some vitamins and minerals that weren't originally present at any significant level in the original cereal (for example, calcium, folate and vitamin C).

If you don't have a balanced diet, eating fortified breakfast cereals can be an easy way to boost your level of these nutrients — a serve can contain up to 25% of the recommended daily intake for most of these vitamins and minerals, and up to 50% for folate and vitamin B_1.

The folate (or folic acid) content of some breakfast cereals can be especially valuable. Folate is particularly important for women of child-bearing age because it can reduce the risk of giving birth to a baby with a neural tube defect such as spina bifida.

In Australia about 400 to 500 babies are born with these genetic defects each year. Exactly how much folate you need to protect against neural tube defects is still under debate, but the National Health and Medical Research Council (NHMRC) recommends 400 micrograms (µg) a day during pregnancy for most women.

You need to take this increased amount in the first weeks after conception when you may not even know you're pregnant. So it's best to increase your intake to 400 µg a day if you're planning to get pregnant — you may want to take a folic acid supplement (if so, talk to your doctor), but some breakfast cereals can also provide valuable amounts (which can be especially important for unplanned pregnancies).

Most of **KELLOGG'S** breakfast cereals are fortified with folate. You'll usually get about 100 µg in a serve (check the nutrient panel to find out). **UNCLE TOBYS Lite Start** and **SANITARIUM Weet-Bix** are among others that are also fortified. As fortifying cereals with folate is only fairly new, with time other cereals may include it — check the labels.

FIBRE AIN'T FIBRE

Fibre is made up of a number of plant components that aren't digested in the small intestine like other nutrients, but in the colon. There are two main types — **insoluble fibre** (such as cellulose in wheat) and **soluble fibre** (such as pectin in fruit, and gums in oats, barley and legumes). And now there's also another component in the fibre equation — **resistant starch** (see below).

All foods that contain fibre (vegetables, fruit, legumes and grains) have a mix of both soluble and insoluble types. However, altogether there's much more insoluble than soluble fibre in foods.

Both fibres play important roles in the body. Insoluble fibre (the main type in wheat) is important to prevent constipation and associated conditions such as haemorrhoids. A big plus of soluble fibre is its cholesterol-lowering effect, but along with insoluble fibre it also helps prevent constipation. The risk of colon cancer and other cancers (such as breast and prostate) may decrease if you eat a high-fibre diet.

Because it's not easy to find foods with soluble fibre in them, it's hard to get enough in your everyday diet to have a significant cholesterol-lowering effect. If you aim to increase your fibre intake in general (by eating plenty of fruit and vegetables as well as wholegrain bread and cereals) you will also automatically increase your intake of soluble fibre. However, if you're trying to have an impact on your cholesterol levels you'll need to include other foods rich in soluble fibre to get that bit extra.

This is where breakfast cereals can help — rolled oats, muesli's (based on rolled oats) and cereals based on oat bran all have a respectable amount of soluble fibre. Some brands of breakfast cereal list their soluble fibre content on the label, so you can check out how much you're really getting. Of the breakfast cereals we looked at, there's one soluble-fibre superstar — **KELLOGG'S Guardian**, which contains psyllium grain (psyllium is a rich source of soluble fibre); it has 2.4 g of soluble fibre per 30 g serve.

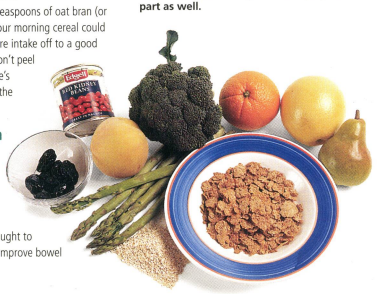
Adding a couple of teaspoons of oat bran (or barley or rice bran) to your morning cereal could also get your soluble fibre intake off to a good start for the day. And don't peel potatoes or fruit — there's valuable soluble fibre in the skin.

Resistant starch

Like fibre, resistant starch doesn't get digested by the body. It travels through the intestine in the same way as fibre and it's thought to act in the same way to improve bowel health.

Small amounts of resistant starch occur naturally in some foods (such as bread, cereals, lentils and potatoes). A new type of maize has also been developed (called Hi-maize) which is rich in resistant starch. Two foods which contain Hi-maize are **BUTTERCUP Wonder White** bread, and **UNCLE TOBYS Grinners** breakfast cereal (the resistant starch is included as part of the fibre figure in the nutrient panel).

You don't have to chomp your way through a mountain of oat bran to increase your intake of soluble fibre — breakfast cereals, legumes, fruit and vegies can all play their part as well.



How do the different breakfast options compare?

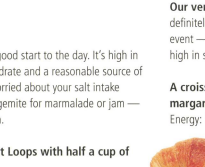
How nutritious is a cereal breakfast compared with the alternatives? It depends on what your cereal choice is to begin with, as well as what you add to it. When you look at the nutritional value of the range of different breakfast options below, you'll see it's still hard to beat a healthy breakfast cereal to start your day. And as you can see from the fat and sodium count, a fry-up should definitely be an occasional rather than an everyday event.

If you want to keep your fat intake down, use reduced-fat or skim milk instead of full-fat milk on your cereal, and use reduced-fat spreads or only a scrape of butter or margarine on your bread. And try adding a piece of fruit to your breakfast to increase your fibre intake.

Two Weet-Bix with half a cup of reduced-fat milk.
Energy: 711 kJ/170 Cal
Fat: 3 g
Fibre: 3 g
Sugar: 8 g
Sodium: 159 mg
Our verdict: A great start to the day. It's high in complex carbohydrate and a reasonable source of fibre, while being low in fat, sugar and salt.

Two slices of wholemeal toast with two teaspoons of reduced-fat margarine and a smear of Vegemite.
Energy: 731 kJ/175 Cal
Fat: 6 g
Fibre: 4 g
Sugar: 1 g
Sodium: 404 mg
Our verdict: A good start to the day. It's high in complex carbohydrate and a reasonable source of fibre. If you're worried about your salt intake exchange the Vegemite for marmalade or jam — but not too much.

A bowl of Froot Loops with half a cup of full-fat milk.
Energy: 847 kJ/202 Cal
Fat: 6 g
Fibre: 1 g
Sugar: 20 g
Sodium: 194 mg
Our verdict: There are much better cereal choices to start your day. **Froot Loops** are lower in complex carbohydrate than a lot of other cereals (as are most of the high-sugar cereals), and very low in fibre and high in sugar.



Half a cup of baked beans on a slice of wholemeal toast with a teaspoon of margarine.
Energy: 820 kJ/196 Cal
Fat: 6 g
Fibre: 8 g
Sugar: 7 g
Sodium: 724 mg
Our verdict: A good start to the day. It's a reasonable source of complex carbohydrate, as well as being a good source of fibre (including soluble fibre). If you're worried about your salt intake choose a reduced-salt variety of beans.

A fried egg with two bacon rashers, half a fried tomato and one slice of wholemeal toast with a scrape of margarine.
Energy: 1316 kJ/314 Cal
Fat: 17 g
Fibre: 3 g
Sugar: 3 g
Sodium: 1678 mg
Our verdict: OK as an occasional treat but definitely not recommended as an everyday event — it's low in complex carbohydrate, high in saturated fat and very high in salt.

A croissant with a teaspoon of margarine and a teaspoon of jam.
Energy: 1270 kJ/303 Cal
Fat: 19 g
Fibre: 2 g
Sugar: 7 g
Sodium: 280 mg
Our verdict: OK as an occasional treat but definitely not recommended as an everyday event — it's got nearly four teaspoons of fat in it.

How we rated the cereals

Ideally, a breakfast cereal would provide similar levels of nutrients to unprocessed wholegrain cereals. We looked at the nutrient profiles of some of these raw cereals (wheat, oats and rice) and used them as a starting point for developing a model for ranking the breakfast cereals. The text in the black bars in the table overleaf explains exactly what criteria we used for the first three categories.

- **Highly recommended:** To fit into this group a cereal has to be very close to the original grain.
- **Recommended:** These have more sugar (up to one teaspoon in a 30 g serve), and a little more fat (to allow for added nuts or seeds, for example).
- **OK:** These allow for a reasonable amount of processing — up to two teaspoons of sugar in a 30 g serve, more sodium and less fibre.
- **Not recommended for everyday eating:** These have too much fat, sugar or salt or too little fibre to make them a good choice for everyday eating. They're listed separately on pages 12 to 13.

Notes to the table overleaf

1 Manufacturer's serve size
This is the serve size suggested by the manufacturer. However, if you simply fill your bowl up regardless, you may be eating much more than this.

2 Sodium
Sodium is linked with high blood pressure in susceptible people (about 20% of the population). And high blood pressure is linked with stroke and heart disease, so it's wise to keep your intake down. The recommended daily intake for sodium ranges from 920 mg to 2300 mg a day, depending on your age, sex and other factors.

3 Fat
Most of us eat too much fat — experts recommend that we cut down where possible.

4 Sugar
Sugar provides a readily available source of energy but virtually no other nutrients. Cereals that contain a lot of added sugar generally have less fibre and complex carbohydrate.

The figure for sugar includes all sugars, including those in fruit. Fruit sugar is preferable because the fruit brings with it some fibre, and vitamins and minerals as well.

5 Fibre
Experts recommend that we aim to eat 30 g of fibre each day — most of us don't eat enough.

BREAKFAST CEREALS

Our shoppers got some strange looks from check-out operators as they stripped the supermarket shelves across Australia of breakfast cereals, to come up with almost 200 (including breakfast bars and Pop Tarts). We used the label information to assess

Brand/product (in order of fibre content)	1 Manufacturer's serve size (g)	Energy per 100 g (kJ / Cal)	2 Sodium (mg / 100 g)	3 Fat (%)	4 Sugars (%)	5 Fibre (%)
HIGHLY RECOMMENDED: 7% or more fibre; up to 5% sugar, 4% fat and 600 mg sodium per 100 g						
UNCLE TOBYS Shredded Wheat	25 (1 biscuit)	1430 / 342	10	1	2	13
GENERIC Wheat Biscuits **(A)**	30 (2 biscuits)	1380 / 330	270	3	2	12
KELLOGG'S Mini-Wheats (whole wheat)	30 (21 biscuits)	1596 / 382	5	1	2	12
NO NAME Wheat Flakes	Not listed	1510 / 361	410	2	1	12
SANITARIUM Lite-bix	30 (2 biscuits)	1400 / 335	20	2	2	12
UNCLE TOBYS The Original Weeties	30	1510 / 361	410	2	1	12
UNCLE TOBYS VitaBrits	30 (2 biscuits)	1500 / 358	410	2	1	12
FARMLAND Organic Wheat Biscuits	30 (2 biscuits)	1570 / 375	245	2	3	11
SANITARIUM Weet-Bix	30 (2 biscuits)	1400 / 335	280	3	3	11
LOWAN Wholegrain Triticale Flakes	50	1410 / 337	2	2	1	10
KELLOGG'S Puffed Wheat	30	1626 / 383	12	2	1	9
SANITARIUM Puffed Wheat	30	1520 / 360	24	3	2	7
RECOMMENDED: 7% or more fibre; up to 18% sugar, 9% fat and 600 mg sodium per 100 g						
WILLOW VALLEY Multi Bran	30	1740 / 416	13	7	13	34
NO FRILLS Wheat Bran Cereal *	30	1493 / 363	333	4	15	27
SANITARIUM Weet-Bix Hi Bran	40 (2 biscuits)	1425 / 340	460	8	10	20
KELLOGG'S Guardian	30	1636 / 391	198	1	12	17
UNCLE TOBYS Crunchy Oat Bran	45	1570 / 375	265	6	17	15
THE OLD GRAIN MILL Fruit & Nut muesli	50	1560 / 373	32	8	18	13
UNCLE TOBYS Hi-Fibre Oats *	30	1540 / 368	10	8	1	13
NO FRILLS Tropical Muesli *	30	1580 / 377	16	9	16	12
SANITARIUM Weet-Bix Plus Oat Bran	40 (2 biscuits)	1440 / 345	250	5	7	12
THE OLD GRAIN MILL Australian Gold Tropical Fruit Muesli	50	1548 / 370	66	6	18	12
PRO VITA High Energy Cereal	60	1480 / 354	175	5	2	11
UNCLE TOBYS Fruit 'n' Nut Weeties	45	1470 / 351	295	3	13	11
Rolled Oats **(B)**	30	1546 / 369	8	8	1	10
SANITARIUM Good Start	48 (2 biscuits)	1450 / 345	350	6	8	10
UNCLE TOBYS Honeycomb Weeties	30	1530 / 366	245	3	17	10
WEIGHT WATCHERS Tropicana	30	1525 / 363	230	1	16	10
KELLOGG'S Mini-Wheats (apricot flavour)	30 (15 biscuits)	1551 / 371	9	1	12	9
KELLOGG'S Mini-Wheats (blackcurrant flavour)	30 (15 biscuits)	1555 / 372	8	1	14	9
KELLOGG'S Mini-Wheats (strawberry flavour)	30 (15 biscuits)	1546 / 370	9	1	14	9
NO FRILLS Muesli with Fruit *	30	1429 / 343	24	7	17	8
NO NAME Natural Muesli with Fruit *	Not listed	1428 / 343	24	7	17	8
KELLOGG'S Sustain	45	1594 / 381	205	3	16	7
DAYDAWN Aussie Oats Natural Porridge **(C)***	40	1584 / 377	107	8	14	nl
OK: 3% or more fibre; up to 31% sugar, 9% fat and 800 mg sodium per 100 g						
UNCLE TOBYS Bran Plus	40	870 / 208	740	3	14	46
NO FRILLS Just Bran *	30	1432 / 348	624	3	18	34
SAVINGS Wheat Bran Stix	Not listed	1432 / 342	624	3	18	34
GENERIC Processed Breakfast Bran **(D)**	Not listed / 30 g **(G)**	1350 / 323	610	3	22	32
SANITARIUM Bran Bix	30 (2 biscuits)	1275 / 305	400	4	6	21
CEROLA Natural Muesli	30	1610 / 383	146	8	21	17
GENERIC Sultanas & Bran **(E)** *	30	1264 / 303	449	2	25	17
KELLOGG'S All-Bran Fruit 'n Oats	45	1563 / 374	391	4	22	16
KELLOGG'S Sultana Bran	45	1527 / 365	663	1	21	15
UNCLE TOBYS Fibreplus	45	1380 / 330	125	3	25	15
UNCLE TOBYS Sultanas 'n' Wheatbran (plus yoghurt-coated currants)	45	1480 / 354	550	4	31	15
MORNING SUN Natural Apple and Hazelnut Muesli	60	1510 / 361	40	8	19	14
NORGANIC Crunchola Apple Blueberry	30	1313 / 314	71	<1	25	14
UNCLE TOBYS Crunchy Oat Bran with Fruit	45	1500 / 358	280	4	28	14
CEROLA Toasted Muesli	30	1680 / 400	121	9	20	13
MORNING SUN Natural Apricot and Almond Muesli	60	1510 / 361	30	7	19	13
MORNING SUN Natural Peach and Pecan Muesli	60	1480 / 354	30	6	20	13
PURINA Fruit 'n' Bran Flakes	45	1300 / 311	515	3	27	13

and compare the cereals' nutritional quality. Not all cereals listed in this table are available nationally — we've marked those that aren't with an asterisk (*).

Brand/product (in order of fibre content)	1 Manufacturer's serve size (g)	Energy (kJ / Cal)	2 Sodium (mg / 100g)	3 Fat (%)	4 Sugars (%)	5 Fibre (%)
OK (continued)						
UNCLE TOBYS Natural Apricot & Almond Muesli	60	1460 / 349	30	7	19	13
UNCLE TOBYS Natural Original Swiss Formula Muesli	60	1480 / 354	20	7	21	13
BLACK & GOLD Tropical Muesli *	Not listed	1580 / 377	16	9	16	12
GOODNESS Mango & Almond Muesli	60	1680 / 401	40	8	24	12
LOWAN Natural Muesli	50	1516 / 362	27	6	21	12
THE OLD GRAIN MILL Natural Muesli	50	1516 / 362	27	6	21	12
WEIGHT WATCHERS Fruit & Fibre Cereal	30	1570 / 374	170	3	19	12
CEROLA Light 'n Crunchy	30	1620 / 386	76	6	24	11
MELLOW YELLOW Low Fat Muesli *	50	1436 / 343	42	3	18	11
SANITARIUM Light 'n' Tasty	30	1410 / 336	230	3	21	11
UNCLE TOBYS Grinners	30	1580 / 377	380	3	25	11
UNCLE TOBYS Lite Start	45	1480 / 354	540	2	19	10
UNCLE TOBYS Muesli Flakes *	45	1470 / 351	280	3	24	10
UNCLE TOBYS Nut Feast *	45	1650 / 394	515	8	22	10
ABUNDANT EARTH Gluten Free Muesli	50	1516 / 362	24	8	24	9
AUSTRALIAN BREAKFAST CEREALS abc Cappuccino Flakes	30	1299 / 313	402	2	30	9
SANITARIUM Fruity-Bix **(F)**	40 (10 biscuits)	1420 / 340	188 **(F)**	1	19	9
FREEDOM FOODS All Natural Hi-Lite Cereal *	40	1325 / 319	55	2	21	8
KELLOGG'S Just Right	45	1566 / 375	284	2	22	8
KELLOGG'S Komplete Oven Baked Muesli	45	1704 / 408	129	7	24	8
UNCLE TOBYS Sports Plus	45	1480 / 354	185	3	23	8
UNCLE TOBYS Wheat Bites	30	1590 / 380	215	2	23	8
WILLOW VALLEY OatBran & Fruit Cereal	40	1760 / 420	12	9	29	8
UNCLE TOBYS Instant Porridge Plus Real Fruit / Honey *	30	1570 / 375	45	6	30	7
UNCLE TOBYS Oat Flakes	30	1610 / 385	740	4	12	7
DAYDAWN Ready Brekky Go Action Plus *	37.5 (1 bar)	1534 / 365	177	8	27	6
SANITARIUM Honey Weets	30	1540 / 365	24	3	25	6
UNCLE TOBYS Breakfast Bars Fibreplus	42.5 (1 bar)	1610 / 385	190	9	27	6
WILLOW VALLEY Rice & Oatbran Bubbles	30	1720 / 411	470	3	11	6
BIOGENIC HEALTH FOODS Puffed Brown Rice *	Not listed	1610 / 385	nl	3	0	5
UNCLE TOBYS Breakfast Bars Sports Plus	36.7 (1 bar)	1620 / 387	115	8	27	5
UNCLE TOBYS Choc dot Crispies	30	1590 / 380	610	3	29	5
UNCLE TOBYS Max NRG *	45	1590 / 380	630	1	29	5
WILLOW VALLEY Cocoa Bombs	30	1650 / 394	116	4	30	5
BI-LO Corn Flakes *	Not listed	1600 / 382	750	<1	10	4
BI-LO Crunchy Grain *	Not listed	1442 / 344	434	3	26	4
BIOGENIC HEALTH FOODS Natural muesli *	25	1560 / 372	11	6	24	4
HOME BRAND Crunchi Grain *	30	1442 / 344	434	3	26	4
NO NAME Energi Grain *	30	1442 / 344	434	3	26	4
SAVINGS Corn Flakes	Not listed	1600 / 382	750	3	26	4
SAVINGS Crunchy Grain *	Not listed	1442 / 344	434	3	26	4
WILLOW VALLEY Startrek *	40	1660 / 397	390	2	16	4
ABUNDANT EARTH Puffed Millet	14	1500 / 358	10	3	1	3
ABUNDANT EARTH Puffed Wheat	14	1500 / 357	3	2	1	3
JEWEL Corn Flakes*	30	1368 / 328	551	1	10	3
KELLOGG'S Special K	30	1600 / 383	699	<1	14	3
NO FRILLS Corn Flakes*	30	1368 / 328	551	1	10	3
WILLOW VALLEY Grizzly's	30	1670 / 399	390	2	18	3
DAYDAWN Fruit Medley Fruitful Porridge **(C)***	40	1556 / 370	93	8	20	nl

All figures are rounded to the nearest whole number.

* Not available in all states and territories.

nl Not listed on nutrient panel.

(A) Includes Bi-Lo, Black & Gold, Home Brand, No Frills, No Name and Savings brands.

(B) There are many different brands of rolled oats, as well as numerous different types — for example, quick-cooking, one-minute and traditional. Nutritionally they are all very similar. Any rolled oats which differ significantly from the average (for example, because of added honey, fruit or fibre), are listed individually.

(C) This product will be discontinued in May 1997.

(D) Includes No Name and Savings brands.

(E) Includes Black & Gold, Home Brand and No Frills brands.

(F) Different flavours have slightly different levels of sodium: Tropical (188 mg sodium, listed), Wild Berry (192 mg sodium), Apricot (203 mg sodium).

(G) 30 g for the No Frills product.

Not recommended for everyday eating

These cereals are grouped according to their type. Bear in mind that not all cereals of a particular type ended up in this 'not recommended for everyday eating' group. Plenty are listed in the main table as good choices.

Cereals in this group have one or more of the following:

- Less than 3% fibre.
- More than 31% sugar.
- More than 9% fat.
- More than 800 mg of sodium per 100 g of cereal.

A blank in any column means the cereal is OK for that particular nutrient.

Flakes, bubbles and puffs

These cereals are either too low in fibre, too high in sodium or both. We wouldn't recommend them as your staple cereal, but they're a good source of complex carbohydrate, and some contain added vitamins (mainly B_1, B_2 and niacin) and minerals (iron) so they're definitely a better start to the day than having no breakfast at all.

	Sodium (mg/100 g)	Fibre (%)
Corn-based		
HOME BRAND Corn Flakes	1133	
NO NAME Corn Flakes	1133	
KELLOGG'S Corn Flakes	1020	
SANITARIUM Corn Flakes	910	
KORNIE FOOD COMPANY Corn Flakes	809	2
ABUNDANT EARTH Puffed Corn		2
GOOD MORNING Corn Puffs		2
Rice-based		
KELLOGG'S Rice Bubbles	1032	1
SANITARIUM Ricies	920	2
UNCLE TOBYS Rice Crispies	870	
BLACK & GOLD Rice Pops	820	
HOME BRAND Rice Pops	820	
SAVINGS Rice Pops	820	
GOOD MORNING Rice Puffs		2
NO FRILLS Rice Pops		2
NO NAME Rice Popps		2
ABUNDANT EARTH Puffed Rice		1

Muesli

Muesli can be natural, toasted or oven-baked. All the types are mainly made from rolled oats, with other grains, seeds, nuts and dried fruit added. However, vegetable oil is normally used in the processing of toasted and oven-baked muesli, generally making them too high in fat to be recommended as an everyday choice.

A lot of the natural muesli fitted into our 'recommended' and 'OK' lists, but unfortunately some were slightly too high in fat for us to recommend for everyday eating — a shame, because they're a good source of fibre and would give your complex carbohydrate intake a boost for the day.

Note that muesli is heavier than most other cereals, so if you fill your bowl to the same level as you would with another cereal you'll be eating more in weight, which means more of everything, including fat and calories.

	Fat (%)
Toasted muesli	
PURINA Toasted Muesli	18
KELLOGG'S Oat & Honey Bake	16
UNCLE TOBYS Clusters Oven Baked Muesli	16
MORNING SUN Toasted Tropical Fruits Muesli	15
BLACK & GOLD Toasted Muesli	14
FARMLAND Tropical Toasted Muesli with Six Fruits	14
NO FRILLS Toasted Muesli	14
THE OLD GRAIN MILL Tropical Fruit Toasted Muesli	13
THE MUESLI COMPANY Toasted Muesli Full Of Fruit	12
CEROLA Apricot Toasted Muesli	10
Natural muesli	
MELLOW YELLOW Muesli	15
MELLOW YELLOW Fruity Muesli	12
OLYMPIC Natural Muesli Apricot & Almond	12
FARMLAND Tropical Muesli	11
MELLOW YELLOW Gluten Free Muesli	11
OLYMPIC Natural Muesli Walnut & Mango	11
THE MUESLI COMPANY Muesli Full Of Fruit	11
KIALLA PURE FOODS Organic Muesli	10

Breakfast bars and Pop Tarts

These are alternatives to a bowl of breakfast cereal, but generally not a particularly good one. The breakfast bars on the whole aren't too bad as they're mostly just too high in sugar — but because a lot of the sugar comes from fruit, they're a reasonable source of fibre.

The **Pop Tarts** have no saving grace — they're high in fat and sugar, and low in fibre. In fact, the ingredients list almost suggests there's no 'real' food in them — it reads more like a list of chemicals compared to a highly recommended or recommended cereal.

	Fat (%)	Sugar (%)
UNCLE TOBYS Breakfast Bars Fruit & Nut Crispies	13	
KELLOGG'S Pop Tarts Apple & Cinnamon	12	33
KELLOGG'S Pop tarts Double-Choc Flavour	10	35
KELLOGG'S Pop Tarts Strawberry Flavour	10	33
UNCLE TOBYS Breakfast Bars Sultanas 'n' Wheat Bran		35
UNCLE TOBYS Breakfast Bars Lite Start		35
KELLOGG'S Pop Tarts Apricot Flavour		34
DAYDAWN Ready Brekky Go Premium Blend		33
SANITARIUM Fruity-Bix Bars Apricot		33

Bran cereals

Processed wheatbran cereals are a good source of fibre, but are often too high in sodium — so some didn't make it into our list of recommended or OK cereals. The oatbran cereal included here has much less fibre than most of the wheat cereals and too much fat.

	Fat (%)	Sodium (mg/100 g)
WILLOW VALLEY OatBran Cereal	10	
KELLOGG'S Bran Flakes		874
KELLOGG'S All Bran		849
KELLOGG'S Extra Fibre Wheat Bran Cereal		845

Rolled oats

Rolled oats are generally a good option, because they're high in complex carbohydrate and a good source of fibre (including soluble fibre). However, a couple of cereals based on rolled oats didn't make it into our table for one reason or another — one was too high in fat and the other too high in sugar.

	Fat (%)	Sugar (%)
WILLOW VALLEY Olympic 7am Hot & Cold Oats	14	
UNCLE TOBYS Instant Porridge Plus Natural Honey		32

Kids' sugary cereals

All the cereals in this list have more than two teaspoons of sugar in a 30 g serve, several have as many as three, and one has four. Most are also low in fibre. (Three teaspoons of sugar in a 30 g serve are equivalent to 40% sugar.)

	Sugar (%)	Fibre (%)
KELLOGG'S Honey Smacks	57	
KELLOGG'S Froot Loops	48	2
KELLOGG'S Frosties	41	2
BI-LO Frooty Rings	44	*
GREEN'S Berry Bombs	44	
HOME BRAND Fruut Rings	44	*
NO FRILLS Frute Rings	44	*
NO NAME Fruiti Rings	44	*
SAVINGS Frooty Rings	44	*
WILLOW VALLEY Cinnamon & Honey Cereal	43	
KELLOGG'S Corn Pops	41	*
NO FRILLS Cocoa Puffs	38	
NO NAME Cocoa Puffs	38	
KELLOGG'S Coco Pops	37	1
AUSTRALIAN BREAKFAST CEREALS Coco Flakes	34	
BI-LO Cocoa Bubbles	33	*
BLACK & GOLD Cocoa Puffs	33	*
HOME BRAND Cocoa Puffs	33	*
KELLOGG'S Crunchy Nut Corn Flakes	32	

* The fibre content for these cereals wasn't given, but they're unlikely to be higher than 3%.

Kids' fatty cereals

The **NATURE'S SOURCE** brand of cereal (with a base of oat and rice clusters), which is aimed at kids, is too high in fat and reasonably high in sugar as well, both of which reduce the amount of complex carbohydrate in the cereal.

	Fat (%)
NATURE'S SOURCE Choc bitz	19
NATURE'S SOURCE Mallow bitz	12
NATURE'S SOURCE Straw bitz	10

Adult/teenager cereals

Some of these cereals are too high in fat or sugar to be recommended as an everyday choice.

	Fat (%)	Sugar (%)
WILLOW VALLEY Olympic 7am Fruit of the Tropics	15	
VOGEL'S Multi-Grain Breakfast	15	
SANITARIUM Morning Harvest Fruits of the Forest	14	
SANITARIUM Morning Harvest Fruits of the Tropics	13	
UNCLE TOBYS Apricot Flavoured Fruity Bites*		32
UNCLE TOBYS Wild Berry Flavoured Fruity Bites*		32
UNCLE TOBYS Apricot Flavoured Wheat Bites To Go*		32
UNCLE TOBYS Wild Berry Flavoured Wheat Bites To Go*		32

* However, these cereals are good sources of fibre and over one-third of the sugar is from fruit.

'Sports'

Some cereals marketed as 'sports' cereals are too high in sugar to be recommended for everyday eating. Also, they're relatively low in complex carbohydrate compared to some other choices.

	Sugar (%)
WILLOW VALLEY Slam-Dunks	37
KELLOGG'S Nutri-Grain	32

Choosing the right fuel and the right type and size of heater can help you to save on your energy bill and reduce your contribution to the greenhouse effect.

Your heating options

IN BRIEF

This article tells you:

- How to calculate the heating requirements for your home (page 19).
- The pros and cons of the main fuels and heater types available (pages 16 to 17), how much carbon dioxide they produce and what they'll cost you (page 15).
- Tips that can help you reduce your heating bill (page 18).

WINTER IS GETTING CLOSER. IN many parts of Australia this means people will have to heat their homes. If you were freezing last winter or unhappy with the performance or the costs of the type of fuel or heater you use, you may be thinking about trying something different.

What fuel and what heater?

- The first decision you'll need to make is to choose the right fuel, which depends on its availability (for example, can you get piped natural gas in your neighbourhood?), its cost (for example, do you have access to cheap or even free firewood?) and its environmental impact (for example, natural gas has low emissions of the greenhouse gas carbon dioxide).
- Once you've decided on the fuel, you need to think about the right type of heater.

— What are the initial costs? A reverse-cycle air conditioner may be cheaper to run than column heaters; a flued gas heater may be healthier to run than an unflued one. But can you afford the higher initial investments for these heaters?

— What type of room do you want to heat? In a living area where you spend a lot of time, you'll need an energy- and cost-efficient heater (such as a gas heater, a modern slow-combustion heater or a reverse-cycle air conditioner) that'll heat the whole room for long periods. On the other hand, radiant or fan heaters supply instant heat and are ideal for small rooms where you only spend a couple of hours a day, or as personal heaters.

— For safety reasons, certain types, such as unflued gas heaters and portable electric radiators, are not suitable for bathrooms.

- Finally, you need to calculate the right size of heater for your room. How big is the area you want to heat? You can estimate it with our calculator on page 19. It takes into account such important factors as the level of insulation your home has and the size of windows.

Watt's a joule?

Energy is measured in joules (J). The rate at which energy is used over a period of time is measured in watts (W), with one watt being the use of one joule per second.

These units are used to rate different types of heater. Gas heaters are rated in megajoules (MJ = one million joules); electric heaters, on the other hand, in kilowatts (kW = one thousand watts).

You can compare the capacity of heaters with these different ratings. For example, if an electric heater with a rating of one kW runs for one hour, it'll use one kilowatt-hour (kWh). This is equal to 3.6 MJ (1000 Wh x 3600 seconds per hour).

Carbon dioxide production (tonnes) and cost per year ($)

	Adelaide		Brisbane		Hobart		Melbourne		Perth		Sydney	
Heating type	**tonnes**	**$**	**tonnes**	**$**	**tonnes**	**$**	**tonnes**	**$**	**tonnes**	**$**	**tonnes**	**$**
Natural gas — flued (A)	1.3	210	0.3	90	na (C)	na (C)	2.6	370	0.5	90	0.9	150
Electric radiator or fan heater	4.5	550	1.0	120	0.7	1380	12.6	1080	1.9	230	3.4	400
Electric off-peak	5.2	210	1.0	40	0.8	520	14.3	410	2.2	90	3.9	150
Electric air conditioning	1.3	160	0.3	30	0.2	400	3.6	310	0.6	70	1.0	120
Wood — slow combustion (B)	0.06	280	0.01	50	0.14	650	0.12	560	0.02	90	0.04	190
Wood — open fire (B)	0.3	1540	0.1	330	0.8	3550	0.7	3030	0.1	610	0.2	1120
Coal — slow combustion	2.3	310	0.5	70	5.4	720	4.8	640	0.9	120	1.8	240

(A) LPG produces the same amount of CO_2 as natural gas, but is considerably more expensive.

(B) The CO_2 figures refer to firewood that's replaced by new trees, and would be considerably higher if it wasn't (see below for details).

(C) Not applicable — no natural piped gas is available in Tasmania.

How we calculated costs and CO_2

■ Our calculations of the CO_2 production for the different types of heater and fuel are based on the *Australian Home Greenhouse Scorecard* — a computer program developed by Sustainable Solutions for the Environment Protection Authority in Victoria (with financial assistance from the NSW EPA, the Australian and New Zealand Environment and Conservation Council and the Department of the Environment, Sport and Territories).

■ The figures are for a 160 sq m house with an insulated ceiling. We assumed that the same-sized area is heated in each city, but in Brisbane for only a short time each day, for a medium period of time in Sydney, Adelaide and Perth, and for a long period of time in Melbourne and Hobart.

■ The figures will give you an idea of how much CO_2 the heater types produce relative to each other and of their running costs per year when used to heat a family home. However, they're approximations only, based on the assumptions in our scenario and in the software we used. A different scenario will lead to different results.

■ All figures have been rounded to the nearest 100 kg of CO_2 (except for *Wood — slow combustion*, where the figures are very small) and to the nearest $10.

■ In most states and territories, each kWh of electricity you use produces about 1 kg of CO_2 (that's 0.28 kg of CO_2 per MJ). Exceptions are Tasmania (1 kWh produces only 0.06 kg of CO_2), where a high percentage of power is generated in hydroelectric schemes, and Victoria (1 kWh produces 1.4 kg of CO_2), which uses a lot of brown coal for power generation. Our calculations are based on energy costs of 12 cents per kWh for portable electric heaters and air conditioners, and 4 cents per kWh for off-peak storage heaters.

■ One MJ of natural gas or LPG produces about 0.06 kg of CO_2. Domestic natural gas prices vary considerably between cities. We have calculated using a typical rate for each city. LPG is considerably more expensive.

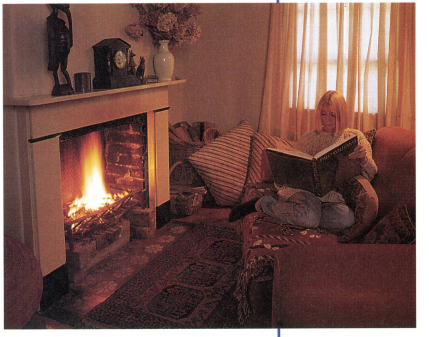
■ Plants use CO_2 from the air for their growth. If you burn wood, you release the carbon stored in it and produce about 1.5 kg of CO_2 per kilogram of wood (or about 0.1 kg per MJ).

However, if the wood you burn is used sustainably (which means that all you burn is replaced by new trees), the new trees will use CO_2 again for their growth — theoretically just as much as you produced by burning the wood.

In that case — which we assumed in our calculations — all you have to take into account is the CO_2 produced when transporting the wood from the forest to your home: 0.03 kg of CO_2 per kilogram of wood, or about 0.002 kg per MJ.

Wood prices vary from city to city — you may even have access to a free supply. However, we assumed you have to buy your firewood and pay $140 per tonne.

■ Each kilogram of coal produces about 2.62 kg of CO_2 (and as 1 kg of coal contains about 28 MJ, that's 0.09 kg of CO_2 per MJ). We've calculated using a price of $350 per tonne.



Old-fashioned open fires may be romantic but they're also very inefficient heaters — you lose 85% of the energy (and therefore the heat) up the chimney.

Which fuel and which heater?

Each type of fuel has its advantages and disadvantages, and so does each type of heater.

In our comparison we didn't include ducted heating (such as gas central heating or underfloor heating) because they usually involve much higher costs and can require substantial construction work.

Electricity

Pros

- It's available almost everywhere.
- The heaters themselves are very efficient.
- The heaters themselves don't produce pollutants.
- You don't need any storage space for fuel.

Cons

- Heating with portable electric heaters can be relatively expensive.
- Power plants that produce electricity by burning fossil fuels produce considerable amounts of the greenhouse gas carbon dioxide (CO_2) and other air pollutants.
- There are considerable energy losses during the generation and transport of electricity (up to 70% of the original energy contained in the fossil fuels used to produce the electricity).
- Electric radiant and convection heaters produce the largest amounts of carbon dioxide of all the heating options in our survey (except in Tasmania, where power is mainly produced by hydroelectric schemes).
- If you have a power cut — as may occur during a storm — you have no heating available.
- Plug-in electric heaters are limited to 2.4 kW.

Electric heater types

For heating capacities and prices of the different types, see *CHOICE test reports*, page 17.

- **Portable heaters**

These have a maximum heating capacity of 2.4 kW.

— **Radiators** and **fan heaters** supply almost instant heat, but only over a relatively short range. They're useful as personal heaters or to heat small rooms or parts of rooms quickly.

—**Oil-filled column heaters** and other **convection heaters** heat the air around them, which then rises to the ceiling while cooler air is drawn to the heater. They're suitable for areas that require heating over a long period, such as bedrooms and small to medium living areas.

- **Off-peak storage heaters**

This type of heater uses cheap off-peak electricity during the night to heat up a storage material (usually bricks). This heat is then released into the room during the day. Storage heaters are less flexible than other types of heater and you may need to use an additional heater in the evening when they run low on stored heat.

- **Reverse-cycle air conditioners**

These work on the same principle as fridges: they use electricity to 'pump' heat from one place to another, and can be used for both heating and cooling. Even on a cold day, the outside air contains heat that can be pumped inside. Air conditioners produce a higher heat output than their electricity input — which gives them an efficiency of around 250%. However, they can't heat as efficiently if the outside temperature drops below 7°C.

Air conditioners come as wall or window units for one room, as split systems which are much quieter because the working part (compressor) is installed outside the house, and as ducted systems to heat various zones in the house with an outside compressor and several inside ducts.

Natural gas

Pros

- Generally cheaper than heating with portable electric heaters.
- Produces less carbon dioxide than heating with electricity (except reverse-cycle air conditioning).
- The heating capacity of portable gas heaters isn't as limited as with plug-in electric heaters.
- Gas heaters carry a star-label which tells you about their energy efficiency: the more stars, the more efficient the heater.
- Doesn't require storage space for fuel.

Cons

- Not available everywhere.
- Produces combustion gases, so you either need to install a flue or you have to live with the gases in your home.

Gas heater types

For heating capacities and prices of the different types, see *CHOICE test reports*, below.

■ **Unflued heaters** vent their combustion gases (for example carbon monoxide, nitrogen dioxide, water vapour) into the room. In Victoria you're not allowed to use them for that reason, and SA and WA also restrict their use. We recommend you ensure good ventilation when using one — particularly because of the water vapour, which could otherwise cause problems with condensation and mould. For safety reasons, unflued gas heaters are not suitable for bathrooms and bedrooms.

They come with a heating capacity from around 8.5 MJ to over 20 MJ, and transfer almost all the energy that's contained in the gas into heat (efficiency: 90%). However, the ventilation they need can lead to additional heat losses. They're usually portable and easier and cheaper to install than flued heaters.

■ **Flued heaters** cost more to start with because you need to install a flue, but because the combustion gases are vented outside, you won't have the problems mentioned for unflued heaters. Flued heaters are suitable for living areas and bedrooms. However, they're less efficient than unflued heaters (efficiency: 75%) because part of the heat is lost with the gases through the flue.

Solid fuels

■ Firewood should be well seasoned (left to dry for at least two summers) so you don't waste energy evaporating off water when burning green wood.

■ Coal has a high energy content (28 MJ per kg). It can usually be burnt in slow-combustion stoves, but you'll probably need a woodfire first (or to use fire-lighters) to get it started.

The key to efficient solid-fuel burning is to control the air supply: uncontrolled air supply means uncontrolled and inefficient burning.

Pros

■ Wood and coal are available almost everywhere.

■ Wood heating can be very economical because a lot of people — particularly in rural areas — may have cheap or even free access to firewood.

Cons

■ Requires storage space for fuel.

■ You have to do more work than with electric or gas heating: you need to load the heater, start and maintain the fire and clean the heater and dispose of the ash.

■ Apart from modern slow-combustion heaters, solid-fuel heaters are less efficient than electric and gas heating (see below).

■ Produces combustion gases and requires the installation of a flue or chimney, which can make installation expensive.

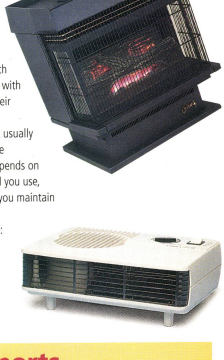
■ The smoke from wood and coal fires contributes to air pollution.

Solid-fuel heater types

■ **Open fires** may be romantic and pleasant to look at, but they only produce very localised heat and they're very inefficient: around 85% of the energy is lost straight up the chimney.

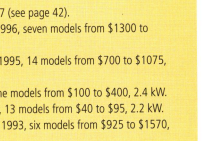
■ **Non-airtight stoves**, such as **potbelly stoves**, get very hot and supply mainly radiant heat. As with open fires, you can't control the air supply to the fire. Non-airtight stoves have an efficiency of around 30%, so they're not really suitable for heating large areas over long periods of time. However, they're relatively cheap and may be worth considering for areas that only have to be heated occasionally.

■ **Modern slow-combustion stoves** have an airtight firebox and air inlet controls that enable you to control the amount of air supplied to the combustion chamber. They reach an efficiency of around 70% and must comply with Australian standard requirements regarding their flue gas emissions.



Manufacturers of slow-combustion heaters usually state the size of the area you can heat with the particular model. However, the heat output depends on various parameters: for example, on which fuel you use, how moist the fuel is, how you load and how you maintain the heater.

Small models are the most commonly used: radiant models without a fan cost around $700 plus installation and can heat areas of around 70 to 90 square metres, while convection models (with fan, around $1000 plus installation) can heat up to 130 square metres.



CHOICE test reports

We frequently test heaters, and our most recent articles are listed below. Prices quoted refer to the time of publication but can still give an idea of the price ranges and the cost differences between heater types.

■ Electric oil-filled column heaters: May 1997 (see page 42).

■ Decorative-effect flued gas heaters: May 1996, seven models from $1300 to $2250, 30 to 37 MJ gas input.

■ Reverse-cycle air conditioners: November 1995, 14 models from $700 to $1075, 1.9 to 2.8 kW.

■ Electric convection heaters: June 1995, nine models from $100 to $400, 2.4 kW.

■ Fan heaters with a thermostat: June 1994, 13 models from $40 to $95, 2.2 kW.

■ Flued gas wall furnaces and heaters: April 1993, six models from $925 to $1570, 22 to 40 MJ gas input.

■ Unflued gas heaters: April 1992, 12 models from $350 to $660, 14 to 21 MJ.

■ Electric radiant heaters: May 1991, eight models from $30 to $200, 1 to 2.4 kW.

Heating tips

Everything in nature tries to reach an equilibrium. For example, heat travels from a warm to a cold area until both areas have the same temperature. If the cold area (for example, outside your house) is much bigger than the warm one (inside your house), this means the small warm area will eventually become the same temperature as the large cold area.

Walls, ceilings and windows may delay nature reaching an equilibrium, but they still allow heat to flow from the warm inside to the cold outside. And sooner or later, inside your house will be as cold as outside.

There are two ways to avoid such unpleasant facts of life: you can constantly add heat to the inside of your house, and you can try to reduce the heat flow from inside to outside as much as possible.

The following tips can help reduce the amount of heating you need, and as using energy costs money and pollutes the environment, they'll save you money and give you a clearer environmental conscience as well (for more details, see *How to save the earth* ***and*** *your money*, CHOICE, April 1997).

Insulate your ceiling and walls

Insulated ceilings and walls reduce the heat flow between the inside and the outside of your house, keeping it warmer in winter and cooler in summer. The effectiveness of insulation is described by its R-value: the higher the R-value, the better the insulation works as a heat-flow barrier.

The Australian standard recommends R-values for the ceiling of around 2.5 to 3 for most coastal areas of Australia, and of around 3 to 4 for inland locations. As a comparison: an uninsulated roof and ceiling have an R-value of around 0.35.

The most popular insulation materials are fibreglass, rockwool, cellulose and wool. We hope to bring you a test report on the different materials in a future issue of CHOICE.

■ **An insulated ceiling should be a number one priority for every house owner (1).**

Draught-proofing

Draught-proof your home: check with a lighted candle around windows and doors to find the draughty spots. Fix draught-stoppers on doors **(2)** (particularly on external doors), seal your windows with insulation strips and close off unused pet doors **(3)** and open fireplaces **(4)**.

Windows

Windows are only a minor barrier to heat: single glass without curtains or blinds has an R-value of only 0.17. Cover them during the night with heavy curtains or blinds to reduce heat losses **(5)**. However, don't cover north-facing windows during the day, to take advantage of the winter sun.

Ventilation

The better insulated and draught-proofed your house, the more important it is you ensure appropriate ventilation. Otherwise you simply won't get enough fresh air. Pollutants (especially from unflued heaters) may accumulate and mould can grow.

Open some windows for a few minutes several times a day, rather than leaving a window partly open all the time — you'll lose less heat that way.

Other tips

■ Close doors between heated and unheated areas **(6)**.

■ Heat your rooms to sensible temperatures. Heating them to only 20°C instead of 23°C probably means you'll have to wear a jumper, but it'll save a lot of energy **(7)**. Also, reduce temperatures at night — add an extra blanket to keep warm if you need to. Use thermostats to maintain the desired temperatures **(8)**.

■ Only heat the rooms you're actually using — or even only the person using the room.

■ Hot air rises to the ceiling, so you may end up with cold feet. A ceiling fan at low speed can help circulate the warmer air more evenly throughout the room **(9)**.

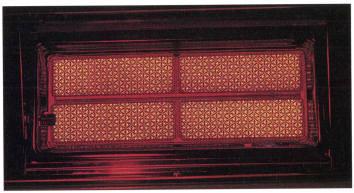
■ Choose the cleanest available fuel and the right size of heater (see *Size matters — how to calculate your heating needs*, right, and the table on page 15).

Size matters — how to calculate your heating needs

Our calculator allows you to estimate the heat loss of a room and the heating capacity you'll need to warm it:

- Insulate — then calculate. Prevent heat losses as much as you can before investing in a new heating system (see *Heating tips*, left).
- Measure the different elements of your room as required by the calculator and fill in their size in square metres (multiply length by height or width to calculate square metres). Then multiply the area by the heat loss factor given for each element. This will give you an estimate of the heat loss in watts through each element of your room.
- Add up all the heat losses of the room elements to get the total heat loss of your room.
- Now add 50% to cover the extra capacity needed to heat up a cold room and other factors such as draughts.
- Divide the result by 1000 to get the heating capacity in kW needed to heat your room.
- Portable and off-peak electric heaters have (close to) 100% efficiency and air conditioners are rated according to their output energy. So the kW value you've calculated in the last step is the capacity of the electric heater or air conditioner you'll need.
- Gas heaters are usually rated in MJ of *input* energy: as one kW equals 3.6 MJ, you'd expect to multiply the kW figure by 3.6 to get the required heating capacity in MJ. However, gas heaters don't turn all the energy contained in the gas into heat — their efficiency is less than 100% (about 90% for unflued heaters and 75% for flued heaters). The heating calculator takes this into account.

Gas heaters are relatively efficient, usually cheap to run, and produce less CO_2 than most electric heaters.



Heat loss calculator

Room element	Area		Heat loss
Ceiling (to insulated roof or unheated room above)	_____	sq m	x 20 = _____ W
Ceiling (to uninsulated roof)	_____	sq m	x 40 = _____ W
External walls (insulated)	_____	sq m	x 10 = _____ W
External walls (uninsulated)	_____	sq m	x 26 = _____ W
Internal walls to heated rooms (including neighbouring dwellings)	_____	sq m	x 0 = no losses
Internal walls to unheated rooms (including neighbouring dwellings)	_____	sq m	x 16 = _____ W
Windows with double glazing or full-length curtains	_____	sq m	x 40 = _____ W
Other windows	_____	sq m	x 80 = _____ W
Floor (slab on ground)	_____	sq m	x 10 = _____ W
Floor (above open space or unheated room)	_____	sq m	x 20 = _____ W

Total heat loss = _____ W

add 50% = _____ W

Heating calculator

Required heating capacity of: **Heater capacity**

Electric heater: Divide the final figure you've arrived at above by 1000 to get kW = _____ kW

Unflued gas heater: Multiply the kW you've just calculated for an electric heater by 4 to get input MJ = _____ MJ

Flued gas heater: Multiply the kW for an electric heater by 4.8 to get input MJ = _____ MJ

Adopted from CSIRO's publication *Room heaters and coolers — choosing the best size.*

Getting out of the transaction account trap

This year Australians will miss out on an estimated $4 billion in interest by leaving their savings stuck in basic transaction accounts with banks, building societies and credit unions. Here are four alternative types of account where it's easy to get an extra 2% to 4% on your money.

IN BRIEF

- You're missing out on worthwhile financial benefits by allowing sums of up to $2000 or more to sit in basic bank transaction accounts.
- In many transaction accounts sums of $2000 to $3000 only earn you one-quarter or half a percent interest annually.
- Four alternatives which don't tie your money up and offer better rates are: savings investment bonus accounts, mortgage offset accounts or redraw facilities, cash management trusts and deeming accounts — they're all profiled in this article.
- If you make the switch — even within your existing bank — you could be earning an extra 2% to 4% on your money ... or even more.

Further reference

This report fits between:

- *Savings: on no account* — which looked at the interplay of interest rates, fees and charges on money held in transaction accounts: CHOICE, March 1997; and
- *Where to invest $5000 to $10,000:* CHOICE, October 1996.

IT'S A SAD, SORRY TALE WHAT CONSUMERS EARN FROM THE money in their transaction accounts:

Bank/account	Amount deposited	Annual interest
ANZ Access Flexible Option	$1-$4999	0.25%
COMMONWEALTH Streamline	$1-$4999	0.25%
NATIONAL AUSTRALIA BANK Flexi	$1-$4999	0.25%
WESTPAC Classic	$1-$4999	0.25%
COLONIAL STATE All-in-One	$1-$4999	0.5%
ST GEORGE Select	$2000-$4999	0.1%

Aren't you mightily *annoyed* at earning a miserable quarter of a percent or less on the money sitting in your basic transaction account? What would it take to persuade you to shift some or all of these savings into a more productive account — even with the very same bank or financial institution?

"But ..." (you might ask):

■ **Won't this mean locking the money away where I can't get at it when I want it — like a term deposit, for example?**

Not necessarily, if you know which account to choose. You can still have immediate access.

■ **Won't I have to give up all the features I need, like my cheque account and linked credit card?**

No. There are alternative accounts which will still give you these valuable features while returning up to 20 times your current interest rate.

■ **Can I still have my pay deposited directly by my employer?**

Yes — some accounts with better interest rates will accept this.

According to the most recent Prices Surveillance Authority report into bank fees and charges (1995), there is an estimated $97 billion to $115 billion sitting in bank transaction accounts — a huge sum. If we can squeeze another 4% from these savings we could share in around $4 billion a year in interest.

Of course for the individual sums of money we're talking about here — and the average amount in a transaction account is around $3000 — it's not a move that will make you a millionaire. It's nothing to lose sleep over.

But the move is worth serious consideration:

■ The four options we'll be profiling in this report are just as suitable for larger amounts of savings as for small amounts. You may find, on reading about them, that they are useful investment tools, not just somewhere to put your small savings.

■ When you go without the extra interest you could earn, you also pay less (hypothetical) income tax. If all the money in transaction accounts was switched to higher-interest accounts, and a third of this extra interest ended up being paid as tax, that could be an extra $1.3 billion (at current rates) going to save our hospitals, schools and so on each year.

■ So what if it's not a lot of money? You may as well get the extra cash rather than contribute further to high bank profits!

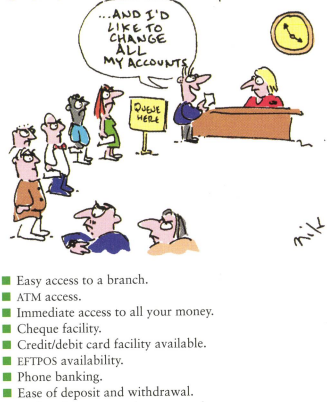
What are your alternatives?

Between the transaction account and the term deposit lie a range of valuable alternatives. The four types we'll deal with here are:

- Deeming accounts.
- Cash management trusts.
- Mortgage offset accounts and redraw facilities.
- Savings investment bonus accounts.

They are offered by banks, building societies and credit unions, although not every product by every institution. You could also consider other types of financial institution that offer them as places to lodge your basic savings, such as finance companies affiliated with banks, insurance companies and stockbroking firms. You may be surprised at some of the deals out there now.

When you read the profiles of the four types of account, keep in mind the reasons why your money is sitting in a transaction account — they probably have little to do with earning interest:



- Easy access to a branch.
- ATM access.
- Immediate access to all your money.
- Cheque facility.
- Credit/debit card facility available.
- EFTPOS availability.
- Phone banking.
- Ease of deposit and withdrawal.
- A place for your employer to send your pay.
- A place from which to pay your home loan.

Convenience and flexibility are the underlying attractions — don't lose sight of them when you're asking about alternatives.

About the following account profiles

Most financial products vary across institutions in their fees, the way they calculate interest and the ancillary features they offer (or deny). For the purpose of the following four product profiles we give general descriptions based on a range of what is available. **They are not precise descriptions of any one account.** Details also change regularly, so ask for up-to-date leaflets on interest rates, charges and terms when checking out these accounts with any bank or other financial institution.

A few final points to note:

■ The four options outlined here offer no relief from government taxes on deposits and debits (although debits tax is only charged on withdrawals and transfers from accounts with a cheque facility).

■ Check with your bank or financial institution about relief from its fees and charges — you may well be eligible. According to Haydn Park of the NATIONAL AUSTRALIA BANK (NAB), around 75% of its customers are entitled to fee-free banking, including people with accounts linked to home loans and those aged under 21. Make sure you get your share.

■ Fee comparison is made much easier with cash management trusts: the advertised interest rate you earn is net of all fees. Don't worry — the institution is still charging you for its costs, but the quoted interest rate takes them into account.

Deeming accounts

■ **Available from:** Banks, some merchant banks, building societies and credit unions, but usually only to people aged 55 or over or those receiving a government benefit.

■ **Current return on $3000 deposited:** Generally 4% pa (per annum) rising to 6% pa for deposits above $30,000.

■ **Interest:** Calculated daily and paid monthly, quarterly or semi-annually, depending on the account and institution.

■ **Minimum balance:** From as low as $1 to as high as $2000 to open the account; with some accounts the balance can then drop to nothing without requiring the account to be closed.

What are they?

It used to be the case that many pensioners would gain or improve their entitlement to government benefits by putting their savings in bank accounts on which no interest was earned. A few years ago the Commonwealth Government decided to close that loophole by imposing the fiction that such a pensioner's savings would be deemed to earn interest, with the precise rate set by the Government. Banks and other financial institutions now offer 'deeming accounts' — essentially basic savings accounts — which hover around the government's deemed rates of interest.

How do they work?

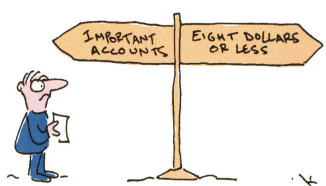
A deeming account is like an ordinary transaction account, although not always with the same breadth of add-on features (cheque facility, credit card, etc.).

■ **Fees and penalties to watch out for:**
If you tend to make lots of withdrawals or deposits each month, aim for an account that won't charge a fee. (Even where a fee is shown in the table below, it can pay to discuss fee exemptions with your bank or other financial institution.)

■ **Greatest benefit of switching to this product:**
You probably won't have to change bank/institution to gain this higher interest rate.

■ **Greatest drawbacks of switching to this product:**
— You may not always get the same features as your existing account offers (such as a credit card) if you do stay with your existing bank. Check before you change.
— Watch penalties on extra transactions: they may be tougher than with your everyday transaction account.

The table below shows just a few examples of available deeming accounts. With all four savings options profiled, it's worth checking whether any local building societies or credit unions offer a better deal or other features you want.



Deeming accounts: some examples

Institution / account	Interest rate (%pa) $1–$30,000 / $3–$30,000+	Interest paid (times per year)	Number of free transactions per month	Fee thereafter (deposit or withdrawal)	Account-keeping fees per month	Can add cheque book	Can add credit or debit card	Minimum opening deposit	Minimum ongoing balance	ATM / EFTPOS
ADVANCE Everyday Pension	4 / 4	2	5	20 ¢ to $1.50	$2 if mmb <$500	✓	✓	$500	None	✓ / ✓
ANZ High Performance Deeming	4 / 6 (B)	4	4	0 ATM / $2 OTC	$4 if mmb <$1000			$1000	None	— / —
BANK OF MELBOURNE Deemed Interest	4 / 6 (A) (C)	12	All	na	0			$500	$1	— / —
COMMONWEALTH Pensioner Security	4 / 6 (A) (C)	4	12 (G)	45 ¢ to $1.50	$2 if mmb <$500	✓	✓	$2000	$1	✓ / ✓
METWAY Pension Savings Account	4 / 6 (D)	4	All	na	0	✓	✓ (K)	$2000	None	✓ / ✓
NAB Retirement New	4 / 6 (A) (E)	4	8 (H)	25 ¢ to $1	0		✓	$1	$1	✓ / ✓
COLONIAL STATE Money Wise	4 / 6 (A)	4	All	na	$2.50 if mmb <$500	✓	✓	$1	None	✓ / ✓
ST GEORGE Protector	4 / 6 (F)	4	12 (J)	40 ¢ to 75 ¢	0	✓	✓	$1	None	✓ / ✓
SUNCORP Pension Account	4 / 6 (A)	4	All	na	0			$1	$1	— / —
WESTPAC Deeming Account	4 / 6	4	6	65 ¢ to $1	0	✓	✓	$1	$1	✓ / ✓

Source: Cannex
OTC Over the counter.
pa Per annum.
na Not applicable.
mmb Minimum monthly balance.

(A) These accounts only pay 6% on the portion of the balance over $30,000.
(B) 0% with less than $1000.
(C) 0.25% on portion under $2000.
(D) 0.5% with less than $2000.
(E) 0.25% with less than $1000.
(F) 6% paid on whole balance if it's $30,000 or more; 0.5% paid on first $2000 if it's less than $30,000.
(G) Keycard option: maximum of four OTC. All (except other banks' ATMs) if minimum monthly balance is more than $500 or if account is Passbook option.
(H) Maximum of four OTC. All (except other banks' ATMs) if minimum monthly balance is more than $500.
(J) EFTPOS, OTC, personal cheques; all own ATM transactions free.
(K) Debit card only.

Cash management trusts

■ **Available from:** Finance companies affiliated with banks (eg COMMONWEALTH FINANCIAL SERVICES) or merchant banks (eg BT Funds Management), some insurance companies (eg LEGAL & GENERAL) and some stockbrokers (eg ORD MINNETT and POTTER WARBURG).

■ **Current return on $3000 deposited:** Around 5% pa.

■ **Interest:** Calculated daily and paid quarterly or upon withdrawal.

■ **Minimum ongoing balance:** Around $1000. The COMMONWEALTH FINANCIAL SERVICES cash management trust, for example, must be opened with $5000, but the balance can then drop to as low as $1000 without you having to leave the trust.

■ **Minimum deposit or withdrawal?** Yes. For example, $300 for COMMONWEALTH FINANCIAL SERVICES, $400 for BT Hi Yield.

■ **Note:** Don't confuse cash managment trusts with banks' normal cash management accounts — the latter usually have much lower interest rates.

What are they?

Your money is pooled with that of others and invested in the money market. Traditionally it is a very secure product, as the money is invested in government securities and bank-backed securities.

How do they work?

To make a withdrawal usually means telephoning the institution and quoting a PIN. You can then pick up a cheque or have the money transferred to an account of your choice (which can be with another institution) later that day or on the following day.

Deposits are made by cheque, which can be posted to the institution or handed over the counter at a branch of an affiliated bank, if there's one near you.

■ **Fees and penalties to watch out for:**

Fees are similar in style to the usual bank fees. For example:

— BT Hi Yield, where you can use an American Express card at an ATM: 20 cents per transaction.

— Fee on deposits made at an affiliated institution: for example, $1 per deposit at WESTPAC for a BT trust.

■ **Greatest benefit of switching to this product:**

You're really making your money work hard for you — with a comparatively great interest rate.

■ **Greatest drawbacks of switching to this product:**

— Having to wait up to 24 hours to get money out of the account (unless you have a cheque account facility attached or choose an account with ATM access).

— To make a deposit you have to fill in a longer form than a typical bank deposit slip.

Features

A wide variety of facilities and features is available — but don't assume any particular cash management trust will have them all: ask before you sign up. They include:

■ ATM access.

■ Cheque book.

■ Direct deposit for your pay.

■ Automatic savings plan — you can sign an authority for monthly withdrawal of a set sum of money from some other account, to be paid into your cash management trust.

■ Look for special benefits, particularly with non-bank trusts. For example, your cash lodged with BT High Yield can be shifted — even by just a phone call — straight into any of its 16 managed trust funds (such as shares or property). Fees may apply.

Cash management trusts: some examples

Institution/ trust	Annual interest rate (% pa)*	Minimum investment ($)	Minimum addition ($)
BT Hi Yield	4.84	2000	1000
COLONIAL CMT	5.06	2000	No minimum
COMMONWEALTH CMT	5.01	5000	300
LEGAL & GENERAL CMT	4.98	500	No minimum
MACQUARIE CMT	5.00	5000	500
MLC CMT	4.81	5000	500
POTTER WARBURG CMT	4.82	1000	No minimum
WESTPAC Money Market	4.80	5000	1000

* Calculated on daily averages.

Interest rate information from the *Australian Financial Review*, March 25, 1997.

Mortgage offset accounts and redraw facilities

■ **Available from:** Banks, building societies, credit unions and some non-bank home-loan lenders. You'd only be interested in them if you have a mortgage with the same institution.

■ **Current return on $3000 deposited:** From 0.15% to around 8% pa (tax-free).

■ **Interest:** Calculated daily and 'paid' monthly or fortnightly (see below for an explanation).

■ **Minimum balance:** None.

What are they?

They let you make a deposit or withdrawal ('redraw') whenever you like while paying lower interest on your home loan.

How do they work?

The point of these two types of account is to put money back to work for you that would otherwise go in tax. If you have money on deposit anywhere, any interest you earn is subject to income tax — you could lose as much as 48.7% of that interest. But a deposit in a mortgage offset account or redraw facility earns no interest — instead the bank gives you a reduction in the interest you have to pay on your loan. As you are not earning interest, you are not paying tax on this money. And your loan should get paid off sooner.

Mortgage offset accounts

As an illustration, here's how a typical mortgage offset account works:

■ **Background:**

Home loan: $100,000.

Your deposit: $3000.

Interest rate you pay on a typical variable-rate loan: 7.55% pa.

Interest rate you earn on a typical bank deposit of $3000: 0.25% pa.

Interest rate on a typical mortgage offset account: 3% pa.

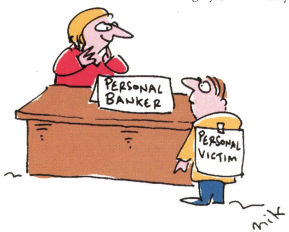
■ **Without offset facility:**

Deposit account: $3000 @ 0.25% pa = $7.50 interest earned over 12 months.

Tax effect @ 48.7%: $7.50 x 48.7% = $3.65.

Income less tax: $7.50-$3.65 = $3.85, which is your net earning for the year on this account.

Mortgage: Meanwhile your loan of $100,000 is costing you interest at the rate of 7.55% — roughly $7550 that year.



Mortgage products: some examples

Institution / account	Interest rate (%) on $3000	Cost per withdrawal
MORTGAGE OFFSET ACCOUNTS		
ANZ Home Loan Interest Saver	7.55 (A)	(B)
ADVANCE Advance Loan Saver	0.15	No fees
COLONIAL STATE All-in-One	0.50	No fees
COMMONWEALTH Mortgage Interest Saver	2.75	(B)
METWAY Home Loan Reducer	3.25	(B)
NAB Mortgage Trimmer	0.25	(B)
ST GEORGE Loan Magic	2.75	No fees
MORTGAGES WITH REDRAW FACILITY		
ADVANCE Standard Variable	7.55	0
COMMONWEALTH Complete Home Loan	7.55	0
METWAY Ready Access	7.55	$5 (C)
ST GEORGE Great Australian Home Loan	6.95	$15
WESTPAC First Option	6.95	$50
WESTPAC Premium Option	7.55	$10

Source: Cannex

w/d Withdrawal.

(A) This rate means you'll get 100% of your deposit offset against your mortgage.

(B) Withdrawal fees will be similar to those of normal transaction accounts — generally much lower than those for mortgage accounts with a redraw facility.

(C) If more than five transactions per month.

■ **With offset facility:**

Mortgage offset account: Your $3000 cash earns zero interest.

Mortgage: Your $3000 deposit is credited towards your mortgage, so that year you will pay 7.55% interest on $97,000 ($100,000 minus your $3000 cash) plus 4.55% on $3000 (that is, 7.55% minus the 3% your $3000 would have earned in the offset account) — a reduction of $90 per year on your repayments.

The effect of this is to shorten the term of your loan because you're using your savings to reduce the amount of debt you have to repay, instead of earning (taxable) interest on them. What's more, you don't lose access to your money. You can withdraw from your offset account any time — it isn't locked into your mortgage.

Mortgages with a redraw facility

As an illustration, here's how a typical redraw account works:

■ **Background:**

Home loan: $100,000.

Your deposit: $3000, which counts as an additional payment to your loan.

Interest rate you pay on a typical variable-rate loan: 7.55% pa.

Interest rate you earn in a typical transaction account on a deposit of $3000: 0.25%

■ **Without redraw facility:**

The same as for the offset facility example above.

■ **With redraw facility:**

Mortgage account: That year you will pay 7.55% interest on $97,000 ($100,000 minus your $3000) — about $7325. You have saved 7.55% of $3000, or $226.60 net, by temporarily reducing the balance of your loan.

What's more, as the name implies, you can draw your additonal payment out of this type of account if you need it —

it's not irrevocably credited to your home loan forever. However, as the table above shows, a withdrawal will often cost you more than with a normal transaction account. And, of course, your loan balance will increase if you take part of your additional payment out again.

There's another kind of mortgage facility that not only allows you to redraw your offset deposit but also to keep borrowing more — we'll cover it in an in-depth report on mortgages in an upcoming issue.

With both types...

■ **Fees and penalties to watch out for**

— Keep an eye on monthly account-keeping fees.

— There may be a high fee on each withdrawal: for example, with WESTPAC First Option it will cost you $50.

■ **Greatest benefit of switching to this product**

Not only do you beat the taxman, but you hammer away at your loan principal at the same time and can withdraw money (if your account is in credit) whenever you want. But some deals are much better than others — see the table, left, for examples.

■ **Greatest drawback of switching to this product**

Many people will find these facilities just a bit too complicated to understand, and may therefore feel unsettled about using one. They are not available with all home loans.

Savings investment bonus accounts

■ **Available from:** Banks, building societies and credit unions.

■ **Current return on $3000 deposited:** 0.25% pa, rising to as much as 3.75% pa if you meet the conditions required for the bonus.

■ **Interest calculation:** Calculated daily and paid monthly, quarterly or semi-annually, depending on the account.

■ **Usually no effective minimum ongoing or opening balance:** it can be just a few cents or dollars.

What are they?

A type of transaction account.

How do they work?

Like a Christmas Club, you receive a bonus if you make no withdrawals (and, with some, make a regular deposit). The difference is that you *can* withdraw cash if you want to. However, the bonus is significant, so try to stick to the rules so as not to lose it.

■ **Fees and penalties to watch out for:**

It's not an account to raid for day-to-day living expenses — you pay a fee from 20 cents to $3 nearly every time you do so, as well as missing out on the bonus interest.

■ **Greatest benefits of switching to this product:**

A high bonus rate of interest if you meet the conditions — and you may be able to move to an account with your existing bank or institution.

■ **Greatest drawbacks of switching to this product:**

— You blow that month's bonus if you make a withdrawal (and, for some accounts, fail to make the necessary deposit too). But even then, you're probably earning as much as (or more than) savings left in a transaction account.

— Watch those fees!

Savings investment bonus accounts: some examples

Basic interest rates are those applicable on balances up to $3000. If you don't meet the conditions for the bonus you only receive this lower rate of interest.

Institution / account	Basic interest rate (pa)*	Bonus interest (pa)	Interest paid (times per year)	Bonus conditions	No. of free transactions per month	Fee thereafter (deposit or withdrawal)	Account-keeping fees per month	Can add cheque book	Can add credit or debit card	ATM / EFTPOS
ADVANCE Incentive Saver (A)	0.25%	+3% if mmb >$500	12	1 dep and no w/d that month	1	20 cents to $1.50	$2 if mmb <$500		✓	✓ / ✓
ANZ Progress Saver	0% up to $500, then 1.25%	Double your current rate	12	Min. $50 dep and no w/d that month	1 ATM + 1 OTC	$1 to $3	0		✓ (D)	✓ / —
COMMONWEALTH AwardSaver	0.5% to $1000, 0.75% to $5000	+3%	4	1 dep and no w/d that month	1 (B)	45 cents to $1.50 (B)	0		✓	✓ / ✓
METWAY Smart Saver	0.5% to $2000, 1% to $5000	+3%	4	1 dep and no w/d that month	5	$1	$2 if mmb <$500	✓	✓ (D)	✓ / ✓
WESTPAC Bonus Saver	0.5%	+3%	2	1 dep and no w/d that month	4	65 cents to $1 (C)	$2 if mmb <$500		✓	✓ / ✓

Source: Cannex

pa Per annum.
dep Deposit.
w/d Withdrawal.
mmb Minimum monthly balance.
* With Advance, this rises to 1.75% (+3% bonus) on balances above $100,000; with ANZ this rises to 2.4% (+2.4% bonus) on balances above $10,000; with Commonwealth this rises to 2.5% (+3% bonus) on balances over $50,000; with Metway, this rises to 2.5% (+3% bonus) on balances above $5000; with Westpac, this rises to 2.5% (+3% bonus) on balances above $10,000.

(A) Minimum opening deposit $250.
(B) Commonwealth waives its transaction fees if your account balance is $2000 or more.
(C) All deposits free.
(D) Debit card only.

SPECIAL REPORT

Genetically modified corn

In February, CHOICE spilled the beans on the first genetically modified whole food to enter the Australian food supply (Roundup Ready soybeans). Now watch out for genetically modified corn in your cornflakes!

Where do you find corn products?

- Corn products such as some breakfast cereals (cornflakes, corn puffs), popcorn, and tinned, frozen and fresh corn.
- Products based on flour made from corn: corn chips, burritos and tortillas, corn breads, polenta, as well as corn oil and products fried in corn oil.
- Processed foods which use cornflour or cornstarch as a thickening agent: custards, baby foods, soups, sauces, gravies and dehydrated packet foods.
- Corn syrup, which does a roaring trade as a sweetening ingredient. You'll find it in some confectionery, breakfast cereals, cakes, biscuits and soft drinks.

FIRST IT WAS SOYBEANS — AND THE next crop off the fast-moving biotechnology rank is genetically modified corn, currently raising a storm of protest overseas because of concerns about its safety for both people and the environment. It's not here yet (early April as we write) — but it's only a matter of time, as exports of corn from the US amount to big bikkies.

What's novel about the corn?

The new corn, known as **MAXIMISER**, has been developed by Ciba-Geigy, a Swiss company.

MAXIMISER CORN contains three altered genes. The first makes the corn produce a 'natural biopesticide' (*Bt*), which makes it toxic to pests like corn-borer larvae; the second makes it resistant to one of Ciba-Geigy's own herbicides, Basta (a broad-spectrum weedkiller); and the third makes it resistant to the antibiotic ampicillin.

What are the safety problems?

MAXIMISER CORN has caused safety concerns over genetically modified crops to skyrocket. It's feared the gene which codes for resistance to the herbicide could 'flow' from the corn to some weeds, rendering the herbicide less effective. Moreover, growing crops genetically modified to produce *Bt* could lead to the evolution of *Bt*-resistant pests and make this environmentally friendly biopesticide useless.

The gene that gives the corn its ampicillin resistance is merely there as a 'marker', to allow scientists to identify which corn plants have been modified. There's a risk that the ampicillin-resistant gene could lead to ampicillin no longer being effective against bacteria in people and animals — at a time when the pool of effective antibiotics is already dwindling, as many bacteria become resistant.

Almost every corner of the food supply

Corn, like soybeans, is one of those commodities which finds its way into many corners of the food supply — it can be found in everything from cornflakes to lollies, burritos to bread, and soft drinks to custard — see left for a list of the types of food that can contain it.

So it will be hard to avoid genetically modified corn if you want to, especially as under the proposals in the draft Australian standard for foods produced from gene technology, only a few processed products containing it will be labelled (only where the corn is a major ingredient).

In Europe, Austria and Luxembourg have rejected **MAXIMISER** as too risky, and major UK retailers are saying they don't want beef cattle that have been fed on it. In the US, farmer and consumer groups have called a consumer boycott of products whose manufacturers have said they don't have a problem with using the corn.

It remains to be seen how the Federal Government will respond to **MAXIMISER**, as well as other genetically engineered products on their way to market, such as seeds for novel canola, tomatoes, potatoes and so on. We'll keep you posted. ❑

For more on food issues which affect you ...

Have you been shaken by the recent food safety scares? They're just another example of the tragic consequences when food safety controls break down. In the Autumn edition of our policy and campaigning magazine *Consuming Interest* we take up the challenge of surveying food safety officials on the ground to find out what's really happening to the safety of our food. Some states are dismantling what little protections exist, while other states are tackling the problem head on. Which state do you live in?

For information on how to subscribe to *Consuming Interest*, see the order form on page 28.

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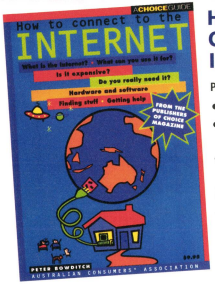

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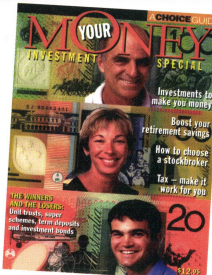
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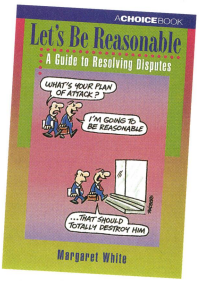
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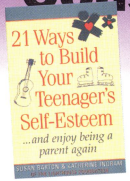
Margaret White

This book explains the techniques of negotiation, mediation, conciliation and arbitration, and litigation, and explains how and when to use them successfully. *Let's Re Reasonable* gives detailed practical advice on common dispute areas, including common causes of disputes, your rights and responsibilities, dispute resolution methods and how to apply them, and where to go for further information and help.

$15 Code: LBR

PLEASE NOTE: From July 1, 1997, there will be no subscriber discounts for the following books: *The CHOICE Guide to Vitamins and Minerals* (CGVM, currently $16 subscribers, $18 others), *Traditional Chinese Medicine* (TCM, $18 subscribers, $20 others) *Mind Body Medicine* (MBM, $31.50 subscribers, $35 others) and *The CHOICE Guide to Baby Products* (CGBP, $14.50 subscribers, $16 others).

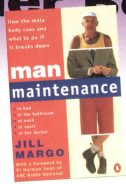
Consumer Bookshelf



21 Ways to Build Your Teenager's Self-Esteem

When your self-esteem is well developed you feel better able to handle the problems life may throw at you. This book provides practical advice to parents about developing their teenager's self-esteem.

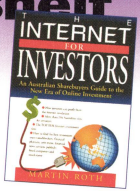
$17 Code: 21SE



Man Maintenance

Jill Margo looks at men's health in an amusing but very informative way. Some of the topics included are diabetes, cancer, fertility, grief and osteoporosis.

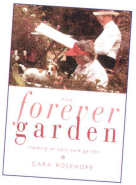
$18 Code: MANN



The Internet for Investors

As using the Internet to gain information about financial investments becomes more common, it's more important than ever to know what's worthwhile and what isn't — *The Internet for Investors* will help you do this, and, explains how you can use the Net to make the most of your investments.

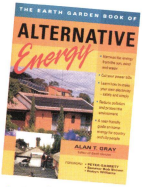
$25 Code: TIFI



The Forever Garden

Gardening can be a strain-free pastime you can enjoy throughout your life, providing you take the time to plan for your later years. *The Forever Garden* provides you with the information you need to select and modify equipment and choose the best plants to develop a garden that will provide you with enjoyment throughout your life.

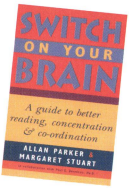
$25 Code: FORG



The Earth Garden Book of Alternative Energy

If cutting your reliance on the energy companies and developing your own power source has ever appealed to you, this book provides tips and pointers you need to get started. It includes information on generating power from the sun, wind or creeks, as well as other practical energy-saving machines, such as cardboard ovens.

$25 Code: ALEN



Switch On Your Brain

Switch On Your Brain explains the basic techniques of educational kinesiology, a method of integrating the left and right sides of your brain until they work in co-ordination. Educational kinesiologists say that by using these techniques, co-ordination, concentration and reading ability may improve. *Switch On Your Brain* includes easy-to-follow exercises and tests. Special price for CHOICE readers; normally $18.95!

$15 Code: SOYB

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TEST REPORT

Breadmakers — do you really knead one?

Breadmakers sound like a great idea, but are they worth the money and effort?

LAST YEAR OUR CONSUMER INFORMATION Service received more enquiries about breadmakers than any other individual product. When we last reported on them in 1988, there were only two on the market, and they cost around $500 each. Now there are at least eight models and they're significantly cheaper (though not necessarily cheap), ranging from around $200 to $300.

But while the price and selection have changed, the problems you might encounter haven't. Part of the appeal of breadmakers is the idea of being able to toss all the ingredients into the machine and have it deliver a tasty loaf soon after.

Unfortunately, the reality is not quite so simple. The breadmaker will do the hard work — the kneading and baking — but that doesn't guarantee you'll end up with the kind of loaf you'd buy from your local bakery.

Balancing act

Making a good loaf of bread is a balancing act. A little too much or too little of an ingredient can make the difference between a good loaf and a disaster. Even the weather at the time the wheat for the flour was harvested can affect the quality of the loaf. *Baking tips* on page 33 should be of help when you're using a breadmaker (or just making your own bread).

All this means even the best breadmaker will have trouble producing a decent loaf if the ingredients are out of kilter. But if you're planning on eating the loaf soon after it's baked, when bread almost always tastes good, the quality of the loaf may be less important than if you want to eat it cold or use it for sandwiches the next day.

You'll need to experiment

If you use a bread premix, chances are you'll be able to make a reasonable loaf most of the time. In our tests we were able to produce a reasonable white loaf in each machine using a premix (we used Kitchen Collection and Defiance Easy Bake, which are both available in supermarkets nationally). However, you shouldn't have to rely on a packet to produce a decent loaf in your breadmaker.

If you're using a recipe and want to improve the taste, appearance and texture of the resulting loaf, you may need to make a number of loaves from the recipe — adjusting the ingredients each time — until you produce a loaf you're happy with. This can be a lot of work and not everyone will be interested enough to bother — in which case the breadmaker will probably end up living in a cupboard. And even once you've perfected the recipe, small changes in flour, yeast or other ingredients could mean your recipe might fail; you may have to continue to adjust it on an ongoing basis.

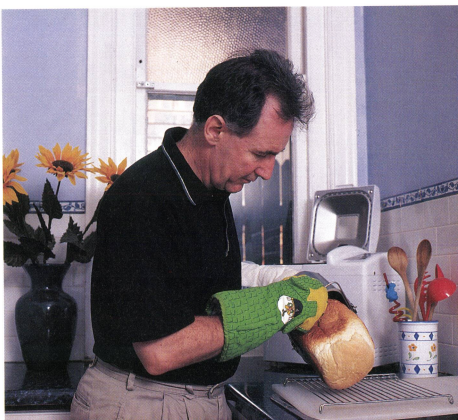
WHAT TO BUY

Given that they can all potentially bake a good loaf, to help you decide which breadmaker to buy we've ranked them according to how easy they are to use.

	SUNBEAM BM001 Bakehouse	$299
equal	**BREVILLE BB200 Bakers Oven**	$229
equal	**PANASONIC SD-200 Bread Bakery**	$299
	SANYO SBM-201 The Bread Factory Plus	$279

IN BRIEF

- Breadmakers can make good bread, but unless you use a bread premix, you'll probably have to experiment to get a recipe that works well.
- If you make at least five loaves each week, even the most expensive breadmaker will pay for itself in a year or so.
- Some of the recipe books supplied with the breadmakers weren't based on the Australian metric system and local ingredients.



PROFILES

Profiles are of the breadmakers in the *What to buy* list. Prices shown are a good target to aim for when shopping around, based on nationwide checks in January 1997. Anything lower is a bargain.

SUNBEAM BM001 Bakehouse

Price: $299

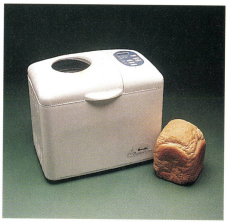
Good points

- Easiest breadmaker to use.
- Best recipe book and uses the Australian metric system.
- Good trouble-shooting guide.
- Control panel indicates what stage the machine has reached.
- Has a viewing window, so you can see the bread as it's being made.
- Continues to work after a short power failure.
- Has a control for adjusting crust colour.
- Comes with an instructional video.

Bad points

- Gluten-free recipe is only available by phoning the manufacturer.
- Noisiest of the models tested.

BREVILLE BB200 Bakers Oven



Price: $229

Good points

- Very easy to use.
- Recipes use the Australian metric system.
- Has a good trouble-shooting guide.
- Has a viewing window, so you can see the bread as it's being made.
- Has a control for adjusting crust colour.
- Provides recipes for making gluten-free and yeast-free breads.

Bad points

- Doesn't start working again after a short power failure.

PANASONIC SD-200 Bread Bakery

Price: $299

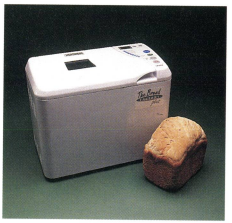
Good points

- Very easy to use.
- Instruction book has the largest range of recipes and is easy to use.
- Has a good trouble-shooting guide.
- Continues to work after a short power failure.

Bad points

- Recipes use the US system (although appropriate measuring cups and spoons are supplied).
- No recipe provided for gluten-free or yeast-free breads.
- No control for adjusting crust colour.

SANYO SBM-201 The Bread Factory Plus



Price: $279

Good points

- Very easy to use.
- Recipes use the Australian metric system.
- Has the largest range of features (see the table on pages 34 to 35).
- Has a good trouble-shooting guide.
- Has a viewing window.

Bad points

- No recipe provided for gluten-free or yeast-free breads.
- Doesn't start working again after a short power failure.
- Crust colour can only be adjusted for white loaves.

WHAT TO LOOK FOR

■ Most of the machines we tested came with a variety of settings for different types of bread (such as white, wholemeal, multigrain, French and rye) and dough (pizza, for example). If there's a type of bread you want to make regularly, check the breadmaker you're interested in has a setting for it, or discusses it in the instruction book.

■ The point of a dough setting is to stop the machine before baking commences. This is handy if you want to shape the bread into bread rolls or other bread styles and then bake them in your regular oven.

■ Check the instruction book uses the Australian Standard Metric System. If it uses a another system, the recipes could be useless unless you convert them or find the appropriate measuring utensils (although some breadmakers, like the non-metric ones in this test, supply measuring cups and spoons to suit their recipes). One indication is the book specifically stating it's for use in Australia.

■ All the breadmakers we tested are about half the size of a small to medium microwave oven, so they'll need a fair amount of bench or storage space. They're also quite heavy, ranging from around 6 kg to 8.5 kg, which means unless you can leave it permanently on your bench, it could be inconvenient to move around.

■ Look for a breadmaker with a fully removable bread pan with a sealed base. This way you can pour the ingredients into the pan away from the machine, which is easier and prevents spills into the machine's baking compartment. In our test, the **PALSONIC PAB-3500 Auto Bakery** was the only breadmaker to have a pan with an unsealed base. All the pans in this test also have non-stick surfaces.

■ If you have problems with your hands or aren't very strong, make sure the bread pan can easily be removed from the breadmaker. In this test, taking the pan out of the **CHARLESCRAFT HBC715 Deluxe Electronic** required considerable force.

Before you buy, make sure it's easy to remove the pan from the breadmaker.

■ If you want to wake up to fresh bread, check that the breadmaker has a timer that allows bread to be made up to 12 hours after being set. All the machines we tested did.

■ Make sure the breadmaker has a post-bake warming function, to keep the bread warm after it's baked. This helps to stop the crust going soggy. This feature operates for about one hour on all the breadmakers we tested.

■ Breadmakers beep several times when they've finished baking. But one that continues beeping at regular intervals until you switch it off means you're less likely to miss hearing the timer. Of the models tested, only the **BREVILLE BB200 Bakers Oven** did this.

Baking tips

If you're trying a recipe from your instruction book and it's not giving you a good result, try turning to its troubleshooting guide or hints. Some of the following tips may also help:

■ Always use fresh ingredients.

■ When using a measuring cup, spoon the ingredients into the cup until it's overflowing, then level it off with the back of a knife or spatula. Don't dip the cup straight into the flour, as this compacts it and you'll end up using too much. Weight measurements, as given in the **SUNBEAM**, **BREVILLE** and **PANASONIC** recipes, are in fact more accurate than by volume.

■ Flour needs to have about 12% protein (gluten) to produce a good loaf (that's about 12 g per 100 g of flour). The gluten is 'developed' during kneading and forms the basic structure of the bread — without it the gases produced by the yeast can escape and the bread will collapse. Baker's or breadmaking flour usually contains enough, but if you're using plain flour (and several of the instruction books say you can), you'll need to add gluten flour to make up the difference. Some brands of plain flour have nutrient panels on the side of the pack, which should tell you how much protein the flour contains. You need to add one teaspoon of gluten flour for each gram below 12 g to each cup (250 mL) of plain flour the recipe requires.

Premixes make it easier to bake a decent loaf of bread every time.

■ You'll also need to add a bread improver that contains alpha-amylase to your flour (including plain, baker's and breadmaking flour). This is because Australian flour (due to our dry harvests) doesn't contain enough alpha-amylase, an enzyme which helps the yeast work properly. The instructions on the packet should guide you on how much to use. However, the Bread Research Institute of Australia suggests halving the recommended amount, on the basis that machine-made bread needs less bread improver than hand-kneaded bread. You can buy both gluten flour and bread improver from health-food shops and some supermarkets.

■ Don't allow dry yeast to come in contact with water before kneading is due to start, as the yeast will start growing too soon. Also, keep additions of salt or sugar separate from the yeast, as direct contact with these will kill it. Fat (such as butter or oil) should also be kept away from yeast, as it may coat its surface and prevent the water getting to it and so stop it growing. Your instruction book will tell you in which order to add the ingredients to prevent this problem.

■ How much water you use in your bread recipe is critical to its success. Small variations in the amount of water used can make the difference between 'bricks' and batter. Follow the recipe carefully. Dough with the correct amount of water should stretch like well-chewed chewing gum after being properly kneaded.

■ If you're adding fruit or nuts to your bread, add them toward the end of the last kneading cycle (most machines beep to indicate when they have reached this stage). This will prevent them being ground up in the kneading process.

■ If you live at a high altitude (above 900 m) you'll probably need to alter your bread recipe, as the higher the altitude the lower the air pressure, and the faster your dough will rise. Try reducing the yeast by 0.7 g, increasing the water by 20 to 40 mL or using a more finely ground flour.

BREADMAKERS

1 2 3 4

	Brand / model (in rank order)	Manufacturer / distributor	Origin	Target price ($) *	Warranty (months)	Weight (kg)	Pan capacity (L)	Recipe measuring system	Adjustable loaf size	Baking status	Power hold
	SUNBEAM BM001 Bakehouse	Sunbeam	China	299	12	8.5	2.8	Metric	✓	✓	✓
equal	**BREVILLE** BB200 Baker's Oven	Breville	Taiwan	229	12	5.9	2.6	Metric	✓		
	PANASONIC SD-200 Bread Bakery	Panasonic	Japan	299	12	6.9	3.0	US	✓		✓
	SANYO SBM-201 The Bread Factory Plus	Sanyo	China	279	12	7.9	3.1	Metric			
equal	**TIFFANY** TS-018S Bread Master	GAF	China	199	12	6.8	2.8	US		✓	
	INNOVATIONS Remarkable Breadmaker **(A)**	Innovations	China	207	12	6.7	2.8	US		✓	
equal	**PALSONIC** PAB-3500 Auto Bakery	Palsonic	China	199	12	6.2	1.9	Metric			
	CHARLESCRAFT HBC715 Deluxe Electronic **(A) (B)**	Danoz	China	199	ns	7.5	2.3	US	✓	✓	✓

* Prices shown are a good target to aim for when shopping around, based on nationwide checks in January 1997. Anything lower is a bargain.

ns Not stated.

(A) This model is available through mail order.

(B) The manufacturer tells us this model may not be in the new catalogue and stocks are low already.

(C) Use normal or 'basic bread' setting.

(D) Use normal or French setting.

(E) Use wholemeal setting.

(F) Use 'manual' setting, which means the breadmaker will stop after the final rising, allowing you to shape rolls, make pizza, etc.

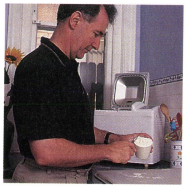
Gluten- or yeast-free bread

If you're sensitive to gluten or yeast, being able to make your own bread without either can be very useful, and is one reason why people buy breadmakers.

However, only one breadmaker in this test had recipes for gluten- or yeast-free breads — the BREVILLE BB200. The SANYO SBM-201 supplied 'quick bread' recipes, which are more like teacake recipes than for breads.

We think it's pretty poor service that you don't get both gluten-free and yeast-free recipes with the other models, although Sunbeam and Tiffany will supply recipes if you ring the following numbers: Sunbeam: 1800 025 059 GAF (Tiffany): (03) 9646 0900

MEASURING UP



Some breadmakers come with recipes that use a non-Australian measuring system. So if you tried to follow their recipes and instructions to make bread using your Australian Standard Metric System cups and spoons, it probably wouldn't turn out well.

Some manufacturers do supply measuring cups and spoons to suit their recipes (all the models using the US system in our test did), but if you lose or break these, you may be hard-pressed to replace them.

Ideally, all the products should provide instruction books with recipes designed for the Australian metric system and local ingredients.

The following table shows equivalent measurements if you need to convert the quantities in a recipe:

	Tspn	Tablespoon	Cup
Australian metric	5 mL	20 mL	250 mL
Non-Australian metric (for example, New Zealand)	5 mL	15 mL	250 mL
US	4.9 mL	14.8 mL	237 mL
Australian Imperial	3.6 mL	14.2 mL	227 mL
English Imperial	4.7 mL	14.2 mL	284 mL

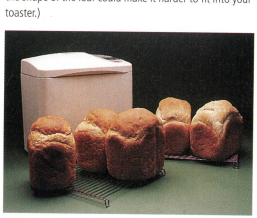
Are they value for money?

If you bake around five loaves of bread a week, you could recoup the costs of even the most expensive breadmakers in this test ($299) in just over a year.

We calculated that it costs around 95 cents to $1.05 to make a 680 g loaf (the standard commercial size) of white or wholemeal bread from a premix or the recipes in the instruction books, including the cost of electricity.

The average commercially made 680 g loaf costs $2.10, so a breadmaker will save you about $1.10 per loaf.

However, loaves from your breadmaker may be denser and smaller than standard commercial loaves, so you could end up with fewer slices. (And if you like toast, the shape of the loaf could make it harder to fit into your toaster.)



If you want to make bread almost every day a breadmaker could be a money saver, but you won't get the same type of loaf as you can buy commercially.

6 French bread setting	6 Sweet bread setting	6 Rye bread setting	6 Gluten-free setting	6 Yeast-free setting	7 Rapid cooking	8 Dough cycle	9 Ease of use score (%)	Brand / model (in rank order)	
✓	✓				✓	✓	84	**SUNBEAM** BM001 Bakehouse	
			✓ (C)	✓		✓	80	**BREVILLE** BB200 Baker's Oven	equal
(C)	(C)				✓	✓	80	**PANASONIC** SD-200 Bread Bakery	
✓	✓	✓			✓	✓	72	**SANYO** SBM-201 The Bread Factory Plus	
✓	(C)	(D)			✓	✓	66	**TIFFANY** TS-018S Bread Master	equal
✓	(C)	(D)			✓	✓	66	**INNOVATIONS** Remarkable Breadmaker (A)	
(C)	(C)	(C)				(F)	59	**PALSONIC** PAB-3500 Auto Bakery	equal
✓	(C)	(E)			✓	✓	59	**CHARLESCRAFT** HBC715 Deluxe Electronic (A) (B)	

Problems

The **CHARLESCRAFT HBC715** we originally bought didn't work. A second machine was also found to be faulty. A third machine worked and was used in the test. Not a good reflection on the company's quality control.

1 Recipe measuring system

Some recipes don't use the Australian metric system, which can create difficulties. See *Measuring up*, left, and *Baking tips*, page 33, for more information.

2 Adjustable loaf size

If you want to make a smaller loaf in the breadmaker, you can't simply halve the ingredients, as the dough ball may be too small, preventing the breadmaker's kneading function from working properly. Some of the instruction books provide recipes for smaller loaves.

3 Baking status

All the breadmakers have a digital timer display that counts down to zero, which allows you to monitor how long before the loaf is finished. Models with a tick provide an additional display which indicates what stage the machine has reached.

4 Power hold

Breadmakers with this setting will restart after a power failure occurs, although this may depend on how long the power was off.

5 Bake only

This setting allows you to bake a hand-made dough, or to start the baking process if the cycle has been interrupted due to a power failure.

6 Types of bread settings

You can make more than one type of bread with all the breadmakers we tested — the settings control the kneading and baking times and temperatures appropriate for that bread type.

7 Rapid cooking

This setting reduces the time to produce a loaf by about 20%, but the loaf is likely to be denser.

8 Dough cycle

This feature allows the breadmaker to knead the dough, then stop before baking. This way you can produce dough for other styles of bread, such as bread rolls or pizza, which you then bake in your regular oven.

9 Ease of use

It was possible to make an acceptable loaf in all the breadmakers, so we ranked them on their ease of use. The following factors were assessed:

- The completeness, clarity and ease of use of the instruction book 40%
- Ease of adding ingredients 20%
- How easy and quick they are to clean 20%
- Ease of inserting and removing the pan 10%
- Ease of removing bread from the pan 10%

Baking time

Breadmakers can take anywhere from two and a quarter hours to four hours to make a loaf of white bread on their standard setting, while wholemeal loaves take about 20% to 25% longer.

Noisy kneading

If you intend to set the machine to bake overnight, be aware that the kneading process can be a little noisy and may disturb you if your kitchen and bedroom are close together. In this test, of the models in the *What to buy* list, the Sunbeam was the loudest when kneading.

SAFETY TIPS

- Two breadmakers, the **INNOVATIONS Remarkable Breadmaker** and **TIFFANY TS-018S Bread Master,** vibrated so much during the kneading cycles that they 'walked' a small distance across the testing bench (a slippery bench could worsen this problem). Left unattended, they could 'walk' straight off some benches and onto the floor, a safety hazard we'd like to see remedied.

  We suggest you keep any breadmaker well away from the edge of your bench, especially if you're setting up the machine to work while you're asleep.
- Smoke detectors are recommended in all homes, but particularly so if you intend to leave a functioning appliance unattended.
- Unlike some appliances, breadmakers don't stop working when you open their lid — even during their kneading and baking cycles.

If a hifi VCR almost guarantees you a good picture and sound nowadays, how do you choose which to buy? Price, of course — and whether you can use it without an electronics degree.

Hifi with your video?

IN BRIEF

- In this test, all the hifi video recorders had very good picture and sound quality.
- Ease of use has improved on many models — with most of those in the test you should be able to program the VCR to record quite easily.
- There are lots of sophisticated features to look out for nowadays — see *What to look for*, right.

VIDEO RECORDERS WITH HIFI stereo sound are becoming more popular, so we tested a model of this type from each brand that had one costing less than $1000.

If you're looking for a hifi VCR, don't assume that a model advertised as having four (or even more) heads will automatically have hifi stereo sound — the number of heads doesn't dictate the type of video it is. Check its box for the words 'hifi' or 'hifi stereo' to make sure.

Good picture and sound

Not surprisingly, the sound quality of all these hifi models was high — close to CD quality, in fact. Of course, you have to connect the VCR to a good-quality stereo system (or have a TV with good stereo capabilities) to achieve this quality — you won't get the full value through normal small TV speakers. If you're interested in home theatre with 'surround sound', this is the type of VCR to buy (see CHOICE, January 1997, for details).

The picture quality of all the models tested was also very good, with no noticeable differences between models.

So if you can be sure of good picture and sound quality when you buy a hifi VCR, what do you base your choice on? Price, of course, and on whether the model has certain features you'd find useful. The VCRs in this test have so many features that we've only had space to highlight functions we think might appeal to most users — see *What to look for*, right, and the table on pages 40 to 41 for details.

Most importantly, however, it's worth making a purchase decision based on ease of use. Videos have a notorious reputation for being too hard to use — how many people have one and have never worked out how to set the clock, never mind how to program it in advance to record TV programs?

So in this test we've based our recommendations on ease of use — if you buy one of the top-rating models you should save yourself at least some of the frustration that can go hand-in-hand with owning a VCR.

What makes a VCR easy to use?

So how easy is it to make each video recorder work? We tested several important features to see how practical and easy it is to:

- Understand the instruction manual.
- Read and use the instructions and information the VCR displays on your TV screen and on the video recorder itself.
- Tune the VCR to local TV stations.
- Use the remote control and the controls on the video itself.
- Set the VCR in advance to record a program (timer recording).

For information on how the best of the VCRs proved themselves, turn to *Profiles* on pages 38 and 39.

Gaining remote control

When buying a VCR, try out the remote to check that it's simple and practical to use.

Because you'll be using it to operate most of the features on the VCR, it needs to be easy to understand what most of the buttons do. There's no point spending the money on a video with lots of convenience features if you have to look up the instruction book every time you want to access them with the remote.

It's also important it feels comfortable in your hand — not too big to hold easily or with the buttons too close together for your fingers.

Remotes should have large, well-spaced buttons that are contrasted by shape and colour. (This is particularly important if you have problems with your eyesight or hands.) Their labelling should be easy to read and should clearly correspond to the task they perform.

The buttons should also be grouped according to use, so that the primary function buttons (play, rewind, etc) are quick to find.

Some manufacturers hide less commonly used controls under a flip lid — as did the PANASONIC and SAMSUNG in this test — which keeps the layout for the everyday controls simpler. However, these remotes required two hands to open the lid, which could be awkward for people who have a problem with their hands, such as arthritis.

And because remotes now clutter up many a lounge room, it's worth checking if the VCR's remote will also operate your TV (particularly the on/off switch, volume control and channel changing).

WHAT TO BUY

equal	**MITSUBISHI HS-651VA**	$699
	PANASONIC NV-HD600MK2A	$749
	SANYO VHR-690	$645
equal	**AKAI VS-G745EA-D**	$599
	SAMSUNG SV-140B	$699
	SHARP VC-H600X	$599
	SONY SLV-X825AS	$799

WHAT TO LOOK FOR

■ Probably the fastest way of setting your VCR to record a program is with a **G-Code**. These are multi-digit numbers allocated to most TV programs and published in many TV guides. Rather than manually entering the date, channel and start and stop times of the program you want to record, you simply enter the program's G-Code, which the VCR translates into the recording details. But G-Code can't usually take into consideration changes by the TV stations, such as a late starting time.

All the VCRs in this test except the **SHARP** allow G-Code programming; another model, the **SHARP VC-H650X**, has it, and is comparable in other ways to the model we tested.

The numbers after the name of a show in a TV guide are G-Codes — you just enter them into your VCR to record a program.

■ To reduce the number of **remote controls** lying around your home, check if the VCR you're interested in buying has a remote that is **compatible** with your TV.

■ If you need to start recording a program immediately, a VCR with a **one-touch record (OTR)** system will allow you to start recording a program and set the length of the recording time with one button. But be careful: some manufacturers use the term 'one-touch record' for different types of recording features — check you're getting what you want.

■ If you have family or friends overseas who record using **NTSC**-format camcorders or VCRs, and you want to watch the videos they send you, you'll need a compatible VCR. Most of the models we tested could play NTSC-format videos, but the quality (and whether it was in colour) varied from machine to machine. It may also vary with the age and model of your TV.

If there are AV (audio/video) inputs at the front as well as the back of your VCR it's easier to plug in your camcorder.

■ An increasingly common feature is **rental mode**. This recognises the fact that the 'erasure-prevention' tab has been removed, and tells the VCR to do everything for you. You don't even need to turn the VCR on: once you place the rental tape (or any tape without the tab) in it, the power comes on, the tape plays through until the end, rewinds, is ejected, and the power turns off.

■ VCRs with an **auto power on** feature are also convenient: this automatically switches the VCR on when a tape is inserted. Many machines will also allow you to **eject** a tape without switching the VCR on first: just press 'eject' and the VCR comes on, ejects the tape and turns off again.

■ Because VCRs are often kept in snug cabinets, turning them around to access **AV inputs** for your camcorder can be a nuisance. All the models we tested except the **MITSUBISHI** and the **PANASONIC** have AV connectors at the front of the machine as well as at the back.

■ Keeping the video heads in your VCR clean can prevent the quality of the picture from deteriorating. Some VCRs come with **auto head clean** — a pad or roller inside that cleans the video head each time a tape is inserted or the machine is switched on.

■ To ensure the picture being recorded or played back is the best quality possible, some VCRs can enhance the quality of a signal they're recording, or improve the quality of a film they're playing back, with a **signal enhancement function** that removes video noise or softens the picture.

■ If you have children and want to control the videos or TV channels they're watching, look for a VCR with a **child lock system**. Once set, this can stop children from turning the VCR on, playing a tape or changing channels.

Continued on page 40

Prices shown are a good target to aim for when shopping around, based on nationwide checks in February 1997. Anything lower is a bargain.

MITSUBISHI HS-651VA

Price: $699

Good points

- Remote control is clearly laid out and labelled, and can also operate some TVs.
- Easy to program it to timer record.
- Easy to tune to local TV stations, and the 'auto tune' function lets you program in the correct channel numbers.
- The display on the VCR is large and easy to read.
- Has 'blank search' feature (fast-forwards to a blank section of the tape if you want to start recording after another program).
- Has 'quick look' feature. (When fast-forwarding or rewinding, it can go into 'play' mode for a few seconds before continuing, letting you check exactly where you are in a program.)
- It notifies you of timer record programming errors.
- Back-up for the clock lasts up to one hour.

Bad points

- Instruction book needs more diagrams.

PANASONIC NV-HD600MK2A

Price: $749

Good points

- Remote control is clearly laid out and labelled, with minor keys hidden behind a flip lid, and it can operate some TVs.
- Easy to program it to timer record.
- Fairly easy to tune to local TV stations.
- The display on the VCR is large and easy to read.
- The VCR monitors its own internal faults and notifies you of problems with a code on the display.
- It notifies you of timer record programming errors.
- Back-up for the clock lasts up to one hour.

Bad points

- Flip lid on remote control might be difficult to open for people with weak hands.
- Instruction book needs more detail.

SANYO VHR-690

Price: $645

Good points

- Remote control is clearly laid out and labelled.
- Easy to program it to timer record.
- Easy to tune to local TV stations, and the 'auto tune' function lets you program in the correct channel numbers.
- Back-up for the clock lasts up to one hour.

Bad points

- The display on the VCR could be larger.
- Keytop labelling on the remote could be brighter.
- The 'timer record' symbol on the VCR display doesn't stand out.
- Remote control can't operate a TV.
- The instruction book is sometimes confusing.

AKAI VS-G745EA-D

Price: $599

Good points

- Easy to tune to local TV stations, and the 'auto tune' function lets you program in the correct channel numbers.
- Has 'blank search' feature (fast-forwards to a blank section of the tape).
- Can be set to switch off automatically after 10 minutes (after transmission ends).
- Easy to program it to timer record.
- Back-up for the clock lasts up to one hour.

Bad points

- The display on the VCR itself could be larger.
- Instructions for the timer record system could be clearer.
- Buttons on the remote control are all the same colour, and have little size and shape differentiation.
- Labelling on the remote control could be larger.
- Remote control can't operate a TV.

SAMSUNG SV-140B

Price: $699

Good points

- Remote control is clearly laid out, with minor controls hidden behind a flip lid.
- Easy to program it to timer record.
- Good instruction book.
- When timer recording in standard mode, the VCR can be set to switch automatically to 'long play' if the tape is likely to run out.
- It notifies you of timer record programming errors.
- Display on the VCR is large, easy to read and uses words rather than symbols.
- Back-up for the clock lasts up to one hour.

Bad points

- When changing channels, you have to place a '0' before all single-digit channel numbers if you're using the number keys.
- No 'auto tune' to local stations (but manual tune is easy to use).
- Flip lid on remote control might be difficult for people with weak hands to open.
- Remote control can't operate a TV.

SHARP VC-H600X

Price: $599

Good points

- Remote control is clearly laid out and labelled and can operate some TVs.
- Easy to program it to timer record.
- Display on the VCR is large and easy to read.
- When timer recording in standard mode, it will switch to 'long play' if the tape is likely to run out.
- Has a skip/search feature, which lets you fast-forward in 30-second increments.
- Has an instant-replay feature, which rewinds in 20-second increments then starts playing again (good for sports fans).

Bad points

- The 'record' symbol on the VCR's display doesn't stand out.
- Back-up for clock lasts one minute only.
- The errata sheet, which notes and corrects errors in the instruction manual, could be clearer and more comprehensive.

SONY SLV-X825AS

Price: $799

Good points

- Remote control can operate a Sony TV.
- Easy to program it to timer record.
- The 'auto tune' function lets you program in the correct channel numbers.
- The display on the VCR is large and easy to read (except for the play/pause indicator).
- 'Skip' button allows you to fast-forward for 30 seconds while in play mode (good for skipping over taped advertisements).
- It notifies you of timer record programming errors.
- Back-up for the clock lasts up to one hour.

Bad points

- Remote control is cluttered, with most buttons being the same shape, size and colour.
- Remote control can't operate other-brand TVs.

HIFI VCRs

	Brand / model	Manufacturer / distributor	Origin	Target price ($) *	Warranty (years)	Dimensions (cm, width x height x depth)	NTSC playback	G-code programming	Has AV i at front
	MITSUBISHI HS-651VA	Mitsubishi	Malaysia	699	1	38 x 10 x 36	✓	✓	
equal	**PANASONIC** NV-HD600MK2A	Panasonic	Japan	749	1 (B)	43 x 9 x 33	✓	✓	
	SANYO VHR-690	Sanyo	Indonesia	645	1 (C)	36 x 10 x 33	✓	✓	✓
	AKAI VS-G745EA-D	Akai	Indonesia	599	1 (D)	38 x 9 x 36	✓	✓	✓
equal	**SAMSUNG** SV-140B	Samsung	Korea	699	1 (E)	40 x 9 x 36		✓	✓
	SHARP VC-H600X	Sharp	Malaysia	599	1	38 x 9 x 31		(G)	✓
	SONY SLV-X825AS	Sony	Malaysia	799	1	43 x 11 x 34	✓	✓	✓
	NEC VHG-104	NEC	Korea	599	1	36 x 10 x 33	✓	✓	✓
equal	**ORION** VLXH-GA	Castel Electronics	Thailand	749	2 (F)	38 x 9 x 32	✓	✓	✓
	PHILIPS VR656/75	Philips	Malaysia	699	1	40 x 9 x 36	✓	✓	✓
equal	**GE** VTH 506	TCE Marketing	Singapore	749	1	40 x 9 x 34	✓	✓	✓
	TOSHIBA V-W51H (A)	Castel Electronics	Singapore	699	2 (F)	37 x 9 x 34	✓	✓	✓

What to look for, continued from page 37

■ Some newer models now have **easy channel number entry**, which allows you to key in double-digit numbers the same way as single-digit numbers. For example, for channel 10, you just press numbers '1' and '0', without having to press an extra 'function' button.

■ If you record several programs on the same tape, locating the one you want to watch can be a hassle — unless you have a VCR with an **index search feature**. This tells the VCR to find the beginning of each program, which it does by searching for an electronic mark, or index. The mark is made on the tape by the VCR when it starts recording a program, or during recording you can manually add a mark. The search feature allows the VCR to fast-forward to an index, play for a few seconds (so you can see which program it is) before moving on to the next index. Or you can move straight to, say, the third index mark.

■ To ensure you don't make an error when setting the timer to record, some VCRs will notify you of **programming errors**, either by 'beeping' or by a written display on the TV screen.

■ A VCR being advertised as having **four or more heads** isn't enough to guarantee hifi sound — check when you're buying.

■ A hifi VCR can also be used as a **high-quality tape recorder** if it's connected to your hifi system.

■ If English isn't your native tongue, having a VCR that presents its on-screen menus in other languages can be very useful. In our test, the **TOSHIBA** provides two Asian languages, while the **SHARP**, **AKAI**, **PANASONIC** and **ORION** have a range of European languages. If you want this feature, check the instruction book for which languages are available on the VCR you're thinking of buying.

■ All VCR clocks should have a **back-up** of at least 30 minutes in case there's a power black-out, or the VCR is temporarily unplugged. This way, you're less likely to lose a programmed recording session and don't have to go to the trouble of resetting the clock. In this test, only the **SHARP** and the **PHILIPS** have less than 30 minutes' back-up.

Instructions in another language can be helpful if English isn't your first language.

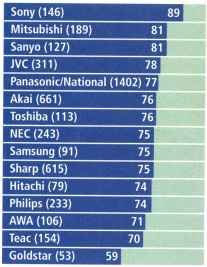
How reliable are they?

We asked a group of subscribers whether their VCR had needed repair in the previous 12 months and whether they would buy the same brand again.

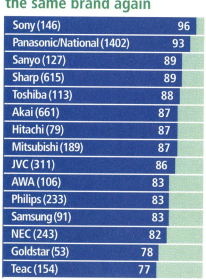
The graphs on the right show the results for the brands for which we got sufficient answers (the number in brackets tells you how many readers reported on the brand).

Nearly a quarter of people said they'd had their VCR repaired in the previous year, which is quite a high average for repairs compared with other appliances. The average cost of repair was around $98.

Percentage not needing repair



Percentage who would buy the same brand again



	5	6	7	8	9	10	11		
mote can erate TVs	Auto head clean	Enhancement of signal	Child lock system	Easy channel number entry**	Index search	Notes programming errors	Final score (ease of use, %)	Brand/ model	
	✓	On record / playback	✓		✓	✓	95	**MITSUBISHI** HS-651VA	
	✓	On playback			✓	✓	95	**PANASONIC** NV-HD600MK2A	equal
	✓	On playback	✓	✓	✓		95	**SANYO** VHR-690	
		On record / playback		✓	✓		90	**AKAI** VS-G745EA-D	
		On playback	✓		✓	✓	90	**SAMSUNG** SV-140B	equal
	✓	On playback	✓		✓		90	**SHARP** VC-H600X	equal
H)	✓	On record / playback			✓	✓	90	**SONY** SLV-X825AS	
	✓		✓	✓	✓	✓	85	**NEC** VHG-104	
	✓			✓	✓		85	**ORION** VLXH-GA	equal
	✓	On playback					85	**PHILIPS** VR656/75	equal
	✓	On playback	✓		✓	✓	77	**GE** VTH 506	equal
	✓			✓	✓		77	**TOSHIBA** V-W51H **(A)**	

* Prices shown are a good target to aim for when shopping around, based on nationwide checks in February 1997. Anything lower is a bargain.

** You can enter single and double-digit channel numbers directly, without pressing an extra button.

(A) Only available from specialist hifi shops.

(B) Two years' warranty costs an extra $30.

(C) Extra one year costs $35.

(D) Extra two years costs $30.

(E) Extra one year costs $30. The video heads have a diamond-like carbon coating, which the manufacturer claims will reduce wear. This is backed up with a three-year warranty on the video heads.

(F) One year for all mechanical/moving parts and remote.

(G) When we were deciding which models to test, Sharp didn't tell us it had an equivalent model to the VC-H600X that has G-Code programming. It now tells us the VC-H650X is the same as the model we tested but has G-Code; it sells for around $629.

(H) Sony TVs only.

All the models tested have the following features:

- Cassettes can be ejected with power off — just press 'eject'.
- Automatic power-on when you insert a tape.
- Automatic playback of tapes in 'rental mode' — see *What to look for* on page 37 for more details.
- Automatic rewind of tapes that have been protected against re-recording.
- Choice of standard or long play — with long-play mode you use less tape but the recording quality generally isn't quite as good.

1 NTSC playback

If you receive videos from overseas recorded in NTSC (American TV) format, you'll need a compatible VCR. See *What to look for* on page 37 for more details.

2 G-Code programming

All the machines we tested have G-Code (see *What to look for* for more information), except for the **SHARP**. Sharp told us too late for testing that it has a hifi model with G-Code that costs less than $1000; see Footnote **(G)** for details.

3 Has AV inputs at the front

You use AV (audio/video) connectors to connect your VCR to your stereo system and TV, and also to plug your camcorder into your VCR. Having them at the front as well as the back will save you having to turn the VCR around to get at the back of it in order to view tapes in your camcorder — especially useful if your VCR's in a cabinet.

4 Remote can operate TVs

Some VCR remote controls can also operate your TV. The ones with a tick in this column can be tuned to operate same-brand TVs, but only if they're recent models. They can also be tuned to operate some different-brand TVs (except the **SONY**) — with varying success, depending on how old the TV is. They may operate all or only some TV functions, such as power, volume and channel change.

5 to 10

For descriptions of what the features in columns 5 through to 10 do and how they work, see *What to look for*, pages 37 and 40.

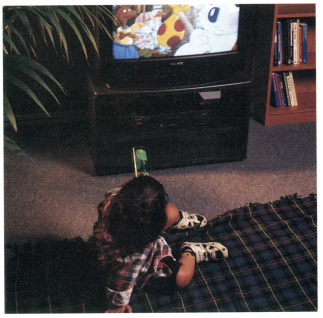
11 Final score

This is based entirely on how easy the VCRs are to use, as this was the only area where there was any significant difference between the VCRs in the test. They were effectively the same — very good — for sound and picture quality.

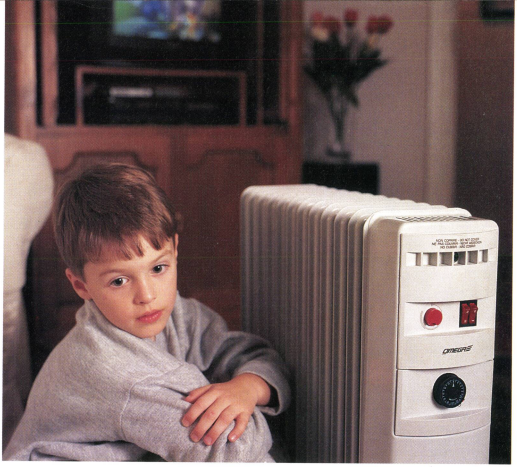
Ease-of-use was based on:

- The remote control 30%
- Setting the VCR to record a program in advance (timer record) 20%
- The display 15%
- The instructions 15%
- Tuning the VCR to local stations 10%
- Controls on the VCR 10%

If you have children you may appreciate a VCR with a 'lock' system that can stop them turning it on, playing a tape or changing channels.



Electric oil-filled column heaters are becoming more and more popular, particularly for their safety. But be aware of their limitations before you buy one.



Safe *but* slow

IN BRIEF

- We tested seven electric oil-filled column heaters with a maximum heating capacity of 2.4 kW.
- Column heaters take longer to heat a room than most other heater types of similar capacity.
- However, they're less likely to cause burns than most other heaters.

OIL-FILLED COLUMN HEATERS don't actually burn oil — they use electricity to heat the oil that's sealed inside their columns or 'fins'. The heat from the oil is then transferred to the casing and to the air circulating around the fins.

They come with a heating capacity of up to 2.4 kW — the maximum allowed for heaters you can connect to a normal power point. In a cool climate a 2.4 kW heater can cope with a room up to, say, 20 to 22 square metres — the size of a bedroom or small living room rather than a large open-plan area. However, this depends very much on where you live and how well insulated your home is.

Electric column heaters are particularly useful in rooms where they'll be switched on for long periods of time or where they'll operate unattended, such as overnight in a bedroom.

They're quiet, and because they're not actually burning anything, they don't produce any fumes in your home. However, generating the electricity to run them still produces carbon dioxide and other air pollutants — unless you live in Tasmania, where most electricity comes from hydroelectric schemes. Column heaters also have the advantage of only requiring minimal cleaning and maintenance.

Convection heating

Column heaters mainly rely on natural convection to heat a room: air is heated around the fins and rises to the ceiling, while cooler air is drawn to the heater. This causes a slow circulation of air called convection. While this can heat a room to the desired temperature, it's a fairly slow process.

The heaters we tested took between 50 minutes (**VULCAN 7375LG**) and just over 80 minutes (**DELONGHI CP2400T**) to raise the temperature in our test room by 5°C (see note 4, page 45) — much longer than, for example, fan-assisted electric convection or gas heaters with a similar capacity would need for the same task.

However, column heaters with 2.4 kW heating capacity are sold as 'room heaters' and some manufacturers claim theirs are suitable for heating fairly large areas without specifying the conditions. So we chose a test room equal to a medium-sized living area with an uninsulated ceiling — conditions that stretched the heaters to the limit.

Both **DELONGHI** heaters and the **DURACRAFT** only managed to heat around 55% of the room from a base temperature of 13 to 14°C to a temperature of 16 to 20°C (or higher, if they could manage it); the **SKOPE** only managed 37%. The **VULCAN** and

DIMPLEX were at the other end of the scale with 78% and 72% respectively.

■ **Our advice:** If (like us) you consider that only part of the room reaching 16 to 20°C on a cold day isn't satisfactory, don't buy a column heater to try to heat a large room. They're likely to cope better with smaller rooms.

Natural convection heating can also cause another problem: if there's not much air movement in the room (for example, if you're sitting reading a book or watching TV), the heat may not be distributed evenly throughout the room, and horizontal temperature layers may form. This could leave you with cold feet: for all the heaters tested we measured temperature differences of around 10°C between ceiling and floor in our test room.

TIP: Use a ceiling fan (if you have one) on very low speed to assist the column heater. It'll help to distribute the heat faster and more evenly in your room.

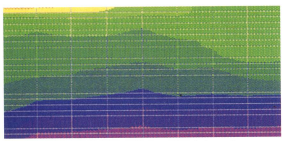
Safety

On the plus side, electric column heaters are considered safer than other types of heater because they don't involve open flames and — under normal operating conditions — they're not as hot to touch.

During normal operation, we measured fin temperatures of up to 87°C. On the **VULCAN** this was close to the maximum temperature for any part of the heater, but others got considerably hotter in parts you're unlikely to touch — mainly around the lower pipe. The two **DELONGHIs** and the **DIMPLEX** reached in excess of 120°C, the **OMEGA** as high as 140°C.

These higher temperatures could theoretically cause burns, but data from the National Injury Surveillance Unit, collected from 1986 to 1994, suggests that of the more than 700 recorded cases of burns caused by heaters, only 10 were caused by electric oil-filled column heaters.

All the heaters passed our electrical safety tests and the stability test in the Australian standard: they didn't fall over when tilted to an angle of 15 degrees.



This heat map shows clearly how hard the column heaters found it to heat all of a large room. This is for the Dimplex — one of the better performers — and even it only reached 21 or 22°C at the ceiling (the yellow bar). Your feet would still be sitting around 13 to 14°C (purple on this map).

However, accidents can happen and a heater can get pushed over, so we looked at what would happen if the heater was left on its side.

The **DELONGHI HMW2400T Heatmachine** has a 'tilt switch', which will switch the heater off if it's tipped over. Of the other heaters, the **DIMPLEX** was the only one that continued to operate normally when lying on its side. All the others reached relatively high temperatures of up to 180°C, which is less desirable. (Because of time constraints, this test wasn't carried out for the **SKOPE** heater.)

While it's fairly unlikely that a column heater could get pushed over unnoticed — the ones tested weighed between 19 and 30 kg — if you're concerned about this, look for a heater with a tilt switch.

Features

Electric column heaters are fairly simple to operate:

■ The models tested all have on/off switches that let you select three power levels.

■ A thermostat allows you to fine-tune the average power to maintain the desired room temperature: it'll switch the heater off once a certain temperature is reached, and switch it on again when the temperature falls.

■ All models tested except the **DURACRAFT** can be bought with a 24-hour timer. We purchased the timer version where possible. A timer is useful if you want the heater to switch on and off automatically — for example, if you want it to start heating an hour before you get home from work. A timer is particularly useful with these heaters as they can take a long time to warm up your room.

WHAT TO BUY

VULCAN 7375LG	$299
DIMPLEX CR2411T	$299

These were the best two heaters in our test, which stretched the heaters to their limit. For smaller or better insulated rooms they're a perfectly adequate form of heating providing you can allow them enough time, and their safety record makes them a good choice in certain situations — for example if you have small children.

WHAT TO LOOK FOR

■ Calculate the right heater size for your requirements (see *Your heating options*, page 19). If you decide a column heater is the type you want:

■ Look for a heater with a thermostat.

■ A timer is useful if you want the heater to switch on or off automatically.

■ A tilt switch may be an additional safety feature worth looking for.

COLUMN HEATERS

Brand / model	Manufacturer / distributor	Origin	Target price ($)*	Warranty (months)	Power cord length (m)	Weight (kg)	Dimensions (H x W x D, n
VULCAN 7375LG	Southcorp	Australia	299	24	2.6	30	650 x 875 x 2
DIMPLEX CR2411T	Dimplex	UK	299	24	2.6 (A)	21	650 x 680 x 2
OMEGA N2 RC 2412 T24	Omega	Italy	259	24	2.9	21	645 x 550 x 2
DURACRAFT SLB 2412	Dimplex	Portugal	209	12	2.6	19	655 x 590 x 2
DELONGHI HMW2400T Heatmachine	Gantech	Italy	329	12	2.7	20	640 x 515 x 2
SKOPE SKOC1524T	Skope	Italy	189	12	2.7	25	650 x 830 x 2
DELONGHI CP2400T	Gantech	Italy	219	24	2.7	20	650 x 555 x 2

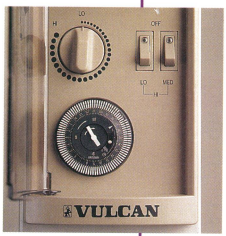
FOR PEOPLE WITH A DISABILITY

An occupational therapist from the Independent Living Centre assessed the heaters for ease of use by people with a disability.

Depending on the disability, the following features are worth looking for when shopping for a heater:

- All text and symbols should be clear, simple and easy to see and read.
- Labels should be large.
- All dials should be easy and simple to operate, possibly with a large crossbar that's easy to grip. The **DIMPLEX** thermostat is mounted on top of the heater and is very easy to get at.
- It should be easy to operate the heater with one hand.
- You shouldn't have to lift the heater to move it. All but the **DIMPLEX** (see *Profiles*, below) have four wheels and don't have to be lifted.
- The heater shouldn't have any sharp edges. The **DELONGHI HMW2400T Heatmachine** has a cover around the fins which conceals all sharp surfaces but also makes it more difficult to clean.

The Vulcan's thermostat (below) has an easy-to-grip crossbar, as does the Skope's.



Which brands are the most reliable?

We asked a group of subscribers whether their oil-filled electric column heater had needed repair during the past 12 months, and whether they would buy the same brand again. The graphs below show the results for the brands for which we have sufficient numbers to report on (the number in brackets tells you how many readers reported on each brand).

Only 4% of people in the survey reported that their column heater had needed repair in the past 12 months — a very good average compared with many other appliances. The average cost of repair was approximately $44.

Percentage not needing repair

Electricaire (81)	98
Dimplex (377)	96
Omega (119)	96
Vulcan (112)	96

Percentage who would buy again

Dimplex (375)	92
Electricaire (79)	92
Omega (119)	90
Vulcan (115)	88

PROFILES

Profiles are of the heaters in the *What to buy* list, in rank order. Prices shown are a good target to aim for when shopping around, based on information from manufacturers in March 1997.

VULCAN 7375LG

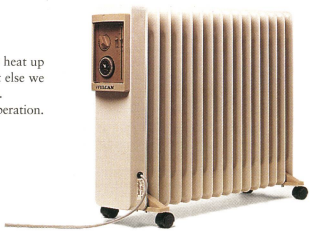
Target price: $299

Good points

- Best for heating, including the fastest to heat up a room — see note 4 on page 45 for what else we included in our heating performance score.
- Lowest surface temperatures in normal operation.
- Controls very easy to use.
- Easy to clean.

Bad points

- The heaviest and bulkiest heater tested.
- No cord storage.



1 t switch	2 Timer	3 Dummy end fin	4 Heating score (%)	5 Ease of use score (%)	6 Overall score (%)	Brand / model
	✓		64	67	65	**VULCAN** 7375LG
	✓	✓	58	63	60	**DIMPLEX** CR2411T
	✓		53	60	55	**OMEGA** N2 RC 2412 T24
		✓	47	70	54	**DURACRAFT** SLB 2412
	✓		45	67	52	**DELONGHI** HMW2400T Heatmachine
	✓		40	77	51	**SKOPE** SKOC1524T
	✓		42	70	50	**DELONGHI** CP2400T

* Prices shown are a good target to aim for when shopping around, based on information from manufacturers in March 1997.

(A) 2.9 m if the cord-storage cover is removed.

(B) This model doesn't have a tilt switch. However, it continues to operate normally when placed on its side.

1 Tilt switch

See *Safety*, page 43.

2 Timer

See *Features*, page 43. All models tested except the **DURACRAFT** come in versions with or without a timer — see right.

3 Dummy end fin

Models with a tick in this column have a 'fake' fin at the end opposite the control panel, which doesn't get as hot as the other fins. This allows you to hold the heater at both ends while it's operating without burning yourself — for example, if you need to move it.

4 Heating performance score

The heaters were tested in a room 6.1 m long, 4.9 m wide and 2.4 m high, to simulate a medium-sized living area with an uninsulated ceiling. To assess how well they heat, we tested the following:

- **Heating speed**: We measured how long the heaters took to raise the room temperature by 5°C.
- **Temperature range**: We measured the temperature difference between the ceiling and the floor of the heated room.
- **Heat distribution**: We measured how much of the room was heated to a temperature of 16 to 20°C or higher from a base temperature of 13 to 14°C.

The test conditions (a relatively large room with an uninsulated ceiling) stretched the heaters to their limit. However, they're likely to heat a smaller, better insulated room quite adequately.

5 Ease of use score

To evaluate how easy the heaters are to use, we assessed the following:

- Legibility, accessibility and ease of operation of controls.
- Ease of cord storage.
- Ease of cleaning.

6 Overall score

The overall score is a combination of heating performance and ease of use, weighted as follows:

- Heating performance: 70%.
- Ease of use: 30%.

All tested models but the DURACRAFT come in versions with and without a timer. We tested the versions with a timer where possible; model numbers and prices quoted in the table are for the timer versions. If you'd prefer a model without a timer, look for the following model numbers:

- **VULCAN 7374LG**
- **DIMPLEX CR2411**
- **OMEGA N1 RC 2412**
- **DELONGHI CP 2400**
- **DELONGHI HMW 2400 Heatmachine**
- **SKOPE SKOC1524**

New models

We had to buy the heaters for this test last winter — they don't appear in the shops early enough in the current season for us to bring this report to you in time for winter.

For this reason, when you go shopping you may also find other column heater models that we couldn't test.

DIMPLEX CR2411T

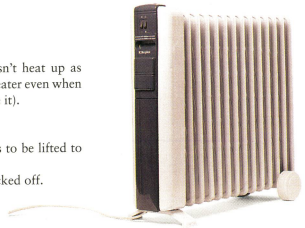
Target price: $299

Good points

- Has a dummy end fin that doesn't heat up as much and allows you to touch the heater even when it's operating (for example, to move it).
- Easy to clean.

Bad points

- Only two rollers, so one end has to be lifted to move the heater.
- Cord storage cover is easily knocked off.



RECALLS & BANS

SAFETY WARNING

THE PRODUCT: Rand International USA has issued an urgent safety warning about the licensed and branded **Barbie**, **Batman** and **Bananas in Pyjamas tricycles**, sold in Australia from October 1996 through World 4 Kids and Toys 'R' Us stores.

The problem: The tricycle has a tassel/streamer accessory attached to the tricycle handlebar, which is inserted into the handlebar with a plastic or metal arrow. It's possible for a child to pull out this piece, and if swallowed it could create an inhalation hazard.

What to do: If you have purchased one of the above tricycles, remove the tassel/streamer from the handlebar and safely dispose of it. For further information contact Jayne Parish on (03) 9531 8388

THE PRODUCT: The Reject Shop has recalled all **No Frills pet food** (for cats and dogs) in 680 g and 400 g cans, sold between February 17 and 28, from the Reject Shop only, in NSW, SA and Victoria. No Frills stock from Franklins has not been recalled.

The problem: A batch of the above product that was sold through the Reject Shop in the states listed above is believed to be contaminated and could cause illness.

What to do: If you bought the above product from the Reject Shop between the dates mentioned, don't use it. Return it to the place of purchase for a full refund. For further information, contact Trevor Maguire on (03) 9371 5555.

THE PRODUCT: KMart has recalled a range of **Gardener's Choice garden lights** sold throughout Australia since September 1996:

- Gardener's Choice Set of 4 Tiered Light Kit.
- Gardener's Choice Set of 4 Floodlight Kit.
- Gardener's Choice Set of 4 Tiered Light Kit (with 2 bonus floodlights).
- Gardener's Choice Set of 4 Floodlight Kit (with 2 bonus tiered lights).
- Gardener's Choice Landscape Kit Set of 12.

The problem: There could be a fault with the transformer (the power source), which could pose an electrical hazard, particularly when replacing globes. The recall applies only to products with a plastic-cased transformer.

What to do: Disconnect the lights from mains power immediately. Return them to any KMart store for a full refund or replacement. Alternatively, ring KMart's Customer Relations Department toll-free on 1800 634 251, and you will be sent a new transformer. For further information, call the above number.

THE PRODUCT: Linens Unlimited has recalled white children's dresses/nightdresses supplied under the label **Linens Unlimited** or **Lace Lady**, sold since January 20, 1993.

The problem: The garments may exceed the maximum length requirements of the mandatory Safety Standard for Children's Nightclothes. And while the garments contain the label: 'Warning — high fire danger, keep away from fire', the extra length could increase the risk of fire hazard.

What to do: Measure the garment from collar seam or neck edge to the lower edge of the hem. The maximum length for each size is as follows:

Size	Length
2	52 cm
4	60 cm
6	67 cm
8	73 cm

If you have measured the garment and it doesn't comply with the standard, send it freight-collect to: Linens Unlimited, PO Box 250, Hawthorn 3122. Linens Unlimited will, at its own cost, reduce the garment's length to comply with the standard or, if this is impracticable, will supply a replacement garment. The altered or replacement garment will be sent by mail within 10 days of being received by Linens Unlimited.

Quiz

1 Oils labelled 'light' are less fattening than regular oils. **True or false?**

2 Which of the following bottled drinks contains the highest level of caffeine?

A) Kaffé Espresso Drink.
B) Jolt cola.
C) Twinings Iced Tea Earl Grey.
D) Coca-Cola.

3 If you have a $100,000 25-year mortgage at an interest rate of 8%, by the time you pay it off you'll have handed over how much to the lender?

A) $100,800.
B) $108,500.
C) $201,800.
D) $231,500.

4 Scientists predict that the man-made increase in the greenhouse effect could have the following consequence:

A) Rising sea levels.
B) More violent tropical storms.
C) Shifting climatic zones.
D) All of the above.

Answers

1. False. All oil is 100% fat. In the case of oils, 'light' refers to colour and/or taste, although this may not be made very clear on the label.

2. C. Twinings Iced Tea has 150 mg of caffeine per litre, Kaffé Espresso Drink has 80 mg/L; Jolt Cola 145 mg/L; and Coca-Cola 90 mg/L.

3. D. But if you can pay extra each month you can cut this considerably. For example, paying $836 a month, instead of the $772 which would pay off the loan in 25 years, would cut five years off the loan (and $30,800 off the amount you actually pay). (Note we have assumed the interest rate stays at 8% for the full term of the loan.) Look out for our article on home loans next month.

4. D. Sea levels are expected to rise because the water will become warmer. This could also lead to more violent tropical storms, and in Australia cyclones could extend further south. The predicted shift of climatic zones would dramatically change where we grow our food.

THE PRODUCT: Woolworths (Victoria) trading as **Safeway Supermarkets** has recalled **Aussie Beef Gluten-Free Sausages** with use-by dates between 19.12.96 and 27.2.97 inclusive, sold in tray packs from the meat department in Safeway Supermarkets throughout Victoria, and in Albury-Wodonga and Corowa.

The problem: Sausages with the above use-by date may contain traces of gluten (natural wheat protein), and people with coeliac disease could become sick if they eat this product.

What to do: Don't eat it. Return the product to your nearest Safeway Supermarket for a full refund. For further information, contact the Safeway Recall Co-ordinator toll-free on 1800 804 998.

THE PRODUCT: Sentrol has recalled all **ESL models** of **Sentrol Smoke Detector, 449** and **429** series (you'll find the series number on the back of the detector), with date codes 9603 to 9649 (found inside the detector), installed after January 17, 1996. The suspect units are not battery-operated smoke detectors but detectors that are connected to an alarm panel. They were distributed by Chubb, Alarmcom, Direct Alarm Supplies

and Mainline, although in some instances they may have been installed by other companies.

The problem: The above product may fail to function if the temperature of the room in which it is installed falls below 21°C.

What to do: If you think you have the above detector, don't rely on it to perform its intended purpose. Call the Chubb Product Recall Co-ordinator on 1800 624 822 to arrange for a technician to visit your premises and replace the faulty component free of charge.

LABELLING

THE PRODUCT: Friskies Pet Care, manufacturer of **Friskies Go-Cat Salmon and Oceanfish**, will be renaming this product.

The problem: The product comprises beef, chicken, ocean fish, salmon, cereals and other ingredients, but there is more meat in this product than fish.

The result: The product will be renamed **Friskies Go-Cat Oceanfish and Salmon Flavour**, in order to avoid any misunderstanding about the relative meat and fish content of this product.

THE PRODUCT: Eveready, manufacturer of the **Eveready Focusing Flashlight** (model nos. 3823WB and 3824WB) with two D-cell batteries included, is notifying consumers that some have been mislabelled.

The problem: The claim on the packaging of the flashlight and batteries stated they were made in Australia, while the label on the batteries themselves stated: "Made in Singapore under License from Eveready Battery Co. Inc. USA."

What happened: Until July 1996, the batteries were made in Australia, but since then most have been sourced from Singapore and Indonesia. Due to an error by Eveready, the flashlight and new imported batteries were sold in old packaging, which still refers to the batteries as made in Australia.

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June 1996 — May 1997

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* indicates an update of a previous report, additions or corrections to reports, small follow-up items or letters.
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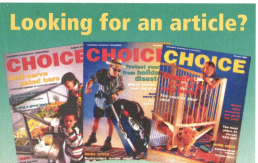

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